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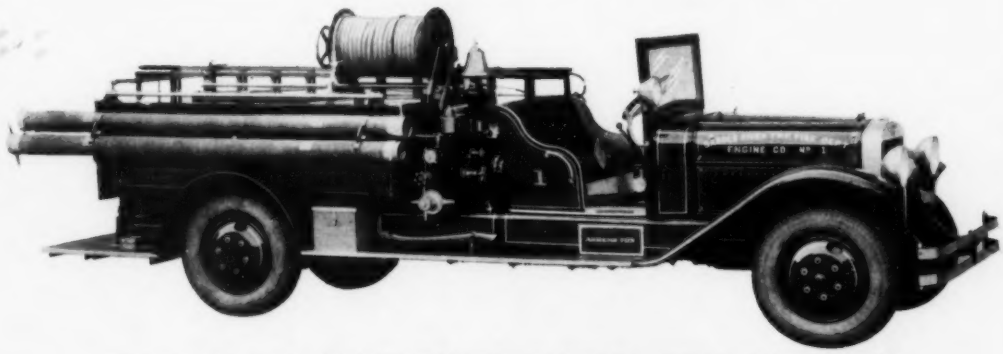

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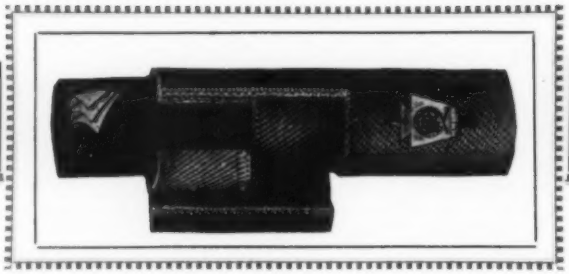

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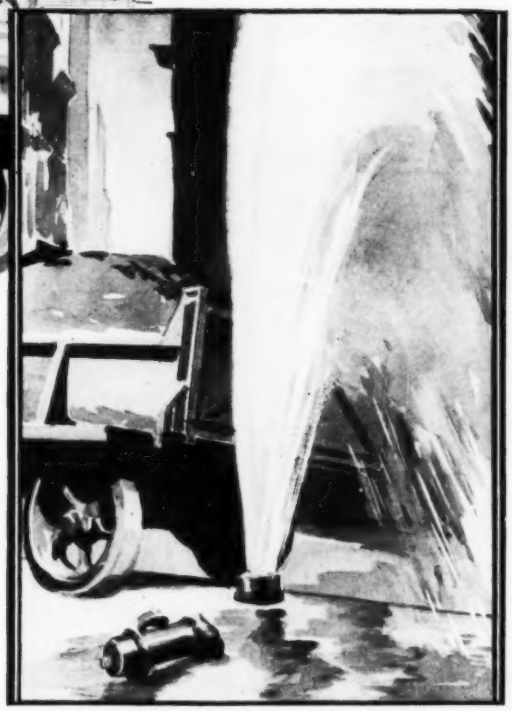

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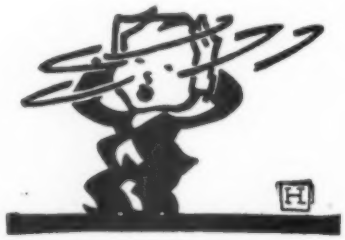

"Uneasy is the Head"

"Man that hath to do with the public business is of few days and full of trouble.

"He cometh forth in the morning with high hopes and 'ere the setting of the sun of that day he hath met with many reverses and continueth not.

"Yet, oh Lord, have compassion on the children of Thy creation that have to do with the public business. Be present and administer them comfort in time of trouble, for they are in trouble most of the time."

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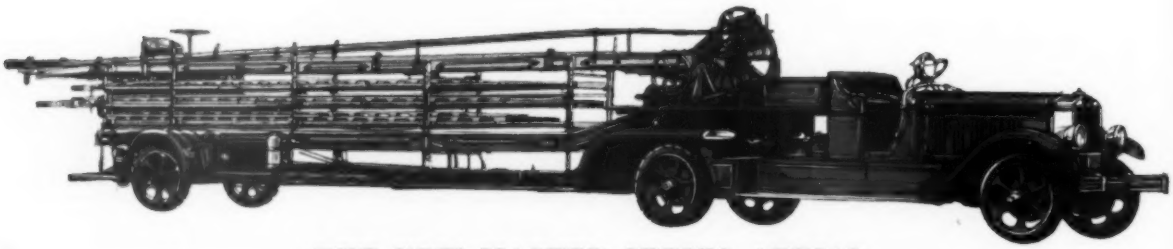

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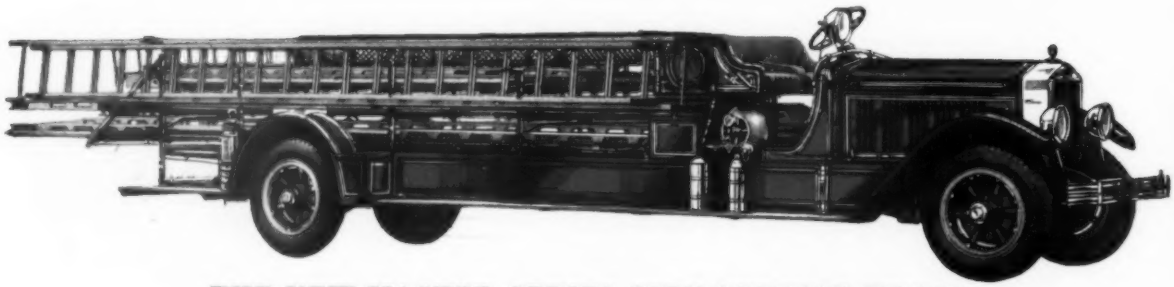

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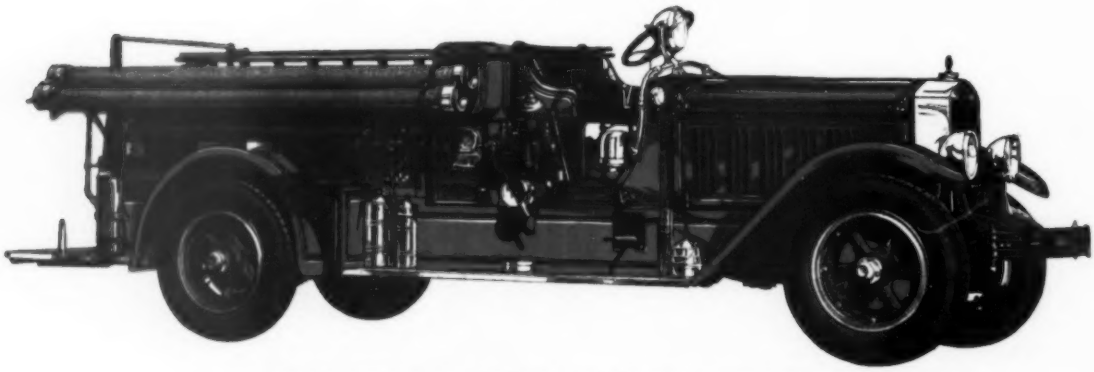

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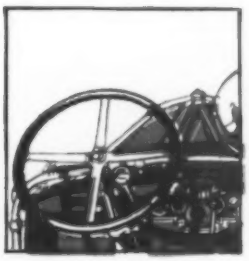

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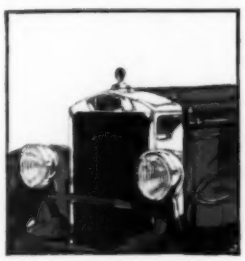

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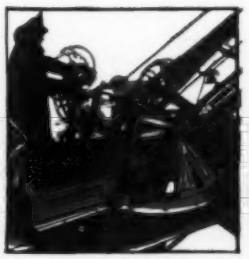

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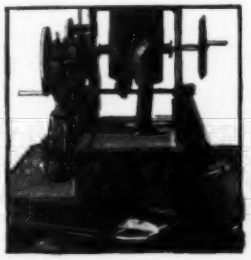

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The Journal of the Fire Protection Profession

VOLUME LXXXIII JUNE 11, 1930 NUMBER 12

Rutland—Its Fire Department

Early History of Fire Protection in the Community—Description of the Various Protective Units of the Fire System

By HARRY BELKNAP

RUTLAND, Vermont, the scene of the 1930 Convention of the New England Association of Fire Chiefs, is a city of 17,600 population and is the smallest municipality that has had the honor of entertaining the chiefs.

Chief Alfred H. Koltonski Rutland, Vt.

The city is picturesquely situated in the broad valley of the Otter, near the high peaks of the Green Mountains and is on the main highway from Saratoga, the Adirondacks, and the Berkshires to the White Mountains. The streets are lined with maple and elm trees and there are many pretty homes in the residential districts.

The deepest marble quarries in the world are located at West Rutland with cutting and finishing shops at Proctor, six miles from the city. The mountain scenery in the suburbs of Rutland is very beautiful. One of the points of especial interest is Sunderland Falls. Lake Bomoseen is near Rutland and Mount Hanley is four miles west of the city.

Chief Koltonski Heads Department

Chief Alfred H. Koltonski, the popular and efficient head of the Rutland Fire Department, has taken an active part in the affairs of the New England Association both as a member of the Board of Directors and on the Exhibit Committee.

Last year the Rutland water department laid 4709 lineal feet of new water mains, of which 1662 feet were of 8 inches diameter and the remainder of 6 inches diameter. This work completed a plan that has been in process of fulfillment for several years in conformity with recommendations of the New England Insurance Exchange and has resulted in a reduction of insurance rates.

During 1929 the Rutland Fire Department answered 206 alarms of which 26 were box alarms, 153 telephone calls, 23 still alarms, and 4 thermostatic alarms.

The value of buildings and contents endangered was $2,047,700. The insurance carried was $1,560,225 and the insurance paid was $40,029.54. There was a loss of $690, not insured, making a total loss for the year of $40,719.54, not including a loss on the Woolworth Building which was adjusted outside the state.

Among the recommendations made in the annual report of John C. Fox, Commissioner of Public Safety, who has general supervision over the police and fire departments, are the erection of a modern drill tower and the installation of additional fire alarm boxes.

Early Fire Protection History of Rutland

The following data regarding the early history of fire protection in Rutland was furnished by Chief Koltonski after an inspection of old records and reports.

In the year 1829 the Vermont Legislature granted articles of incorporation to the Rutland Fire Society and this was the beginning of what later developed into the Rutland fire department. This society for many years devised and had adopted measures for the protection of life and property from fire.

The first annual meeting and inspection of the engine and hook and ladder company was held at the Court House in Rutland on December 29, 1836. This meeting was called by J. D. Butler, President, and F. W. Hopkins, Clerk.

On July 28, 1845, at a special meeting of the legal voters of the village of Rutland, the Fire Society was re-organied and the by-laws were revised.

A resolution was passed that the annual meeting be held the first Tuesday in January to choose officers, etc.; and that there be constituted in the Village of Rutland an engine company of not more than fifty members; and that power should be given to vote and assess a tax on the grand list of the members of the corporation to erect cisterns or reservoirs for water and keeping in repair hose, ladders, hooks, engine, houses, etc.

Central Station, Rutland, Vt. Chief Koltonski and Commissioner Fox at Right.

A reservoir was built "back of the North Church" from which wooden pipes with a bore of three inches were run through the main streets. This was the first action toward supplying the village with means for extinguishing fires through the use of aqueduct water in pipes from the reservoir. Previously a few small wells, cisterns, and buckets had been used to supply the engine. The first engine was a small hand tub.

In 1848 the Fire Society relinquished its powers and the village corporation assumed the task of fire protection. The first iron water pipe was laid in 1852. In December of this year a fire occured at R. R. Thrall's Building and in commenting upon this a local newspaper said: "But little dependence can be placed on one small engine, especially when there is no thoroughly organized company to manage it."

In 1853 a second engine was purchased and the village trustees were instructed "to furnish the engine company with such extra hose, ladders, hooks, and such other articles as may be necessary for protection of the village from fire."

First Fire House and First Steam Fire Engine

In 1858 five miles of water mains were laid and in 1860 the trustees ordered a firehouse built at a cost of $1,200. This house is still in use serving as quarters for Engine Company No. 2 which now has a 750-gallon American-LaFrance motor pumper.

In 1863 Chief Engineer George Dennis reported that the two engines (hand tubs) were in good condition, but that more hose was needed. The first steam fire engine was purchased in 1868.

N. F. Page was appointed chief engineer in 1868 and was succeeded in 1869 by J. M. Davis who held the office until 1871. Chief Davis is still alive at the present time, being 95 years old. He is the father of W. L. Davis, who has been city treasurer of Rutland since 1895.

Additions to the fire department were made in 1870 and within the next ten years the following companies were organized; Nickwacket Engine Company No. 1; Washington Engine Company No. 2; Killington Steamer Co. No. 3; J. W. Crampton Hose Company No. 4; H. H. Baxter Hose Company No. 5; J. A. Sheldon Hose Company No. 6; Hanrahan Hose Company; and the Union Hook and Ladder Company which latter had been first established in 1864.

Fire Alarm System Installed

In 1881 a Gamewell fire alarm system was installed with five miles of wire, 15 boxes, one tower bell striker, one indicator, and three engineer's gongs. The present fire alarm system consists of 56 boxes, 27 miles of wire, one 6-circuit protector board, 6-circuit battery charging boards, and 5-circuit repeater. There are four box circuits and one alarm circuit between two stations. There are 17 "phantom boxes" which may be sent out from headquarters. The transmitter is a 1929 model "Peerless."

Paid Fire Department Organized

The paid Fire Department of Rutland was organized in 1894 with K. K. Hannum as Chief. He had been head of the force since January, 1885, and served until Oct. 1, 1899. He was succeeded by George Dunton who was Chief until March 6, 1906.

The worst fire in the history of Rutland occurred on February 18, 1906, with the temperature 10 degrees below zero. The blaze started in the Y.M.C.A. Building and destroyed that building, the Hulett Building, and the Baker and Tuttle Buildings with a loss of $600,000. Aid was summoned from Whitehall, N. Y., 25 miles away, a steam engine and hose company being sent to help the Rutland firemen.

This fire was followed by the resignation of Chief Dunton who was succeeded by Charles McDermott. The latter served as Chief until April 26, 1909. He was followed by Chief James C. Dunn under whose administration Chief Koltonski entered the fire services on April 16, 1912. Chief Dunn was head of the fire department until March, 1919, when he was elected Mayor of the city, serving in this capacity until 1927.

(*Continued on page* 511)

Building Efficiency Into the Private Fire Brigade

How to Organize Such a Department — Character and Education of Applicants — Discipline Very Essential — Careful Instruction Needful

By CHARLES STEWART, Fire Chief, Pittsburgh Plate Glass Company

THE organization, drilling and instructing of the private plant fire brigade is a most important matter, not only to the plant itself, but also to the city Fire Department. An improperly instructed unit of this kind is apt to prove as great a hindrance as a well organized brigade is a help to the Fire Chief. The following paper makes some excellent suggestions along these lines:

I have divided the subject into two classes, namely: The Paid Fire Department, and The Private Auxiliary Brigade.

First, The paid fire department. The first and one of the most important problems in the organization of the Fire Department is the selection of a Chief. A man to qualify for this position should be a man who has had some knowledge and experience in the handling and training of men, for to get the best results out of men you must make a study of them and deal with them according to their nature or disposition. The Chief should be a man who could give orders understandingly, should be honest, fair minded, be able to think quickly and give orders sharp and clear, have a pleasing personality and above all should be a man who is not easily excited.

Men Should be Selected with Care

The men for a Paid Fire Department should be selected with great care. A man to qualify for this work should be of good health. The age of an applicant for fire service should not be less than 21 or over 38. Some of the large city departments of this country do not approve of applicants over 30 years of age, as they believe that men under that age are more adaptable, and are not as the layman says, "set in their ways." Men under 30 will frankly take more chances than the man between the age of 30 and 38, and as the fire department is a hazardous occupation, this problem should not be overlooked.

The applicant for fire service should be free from any marked deformity; free from all infectious skin diseases, and free from evidence of intemperance in the use of stimulants or drugs. The heart and lungs must be in good condition as the fire service very often demands the utmost from these two vital organs of the body; in working in smoke and gas filled rooms and in the handling of heavy hose lines and ladders.

The nose, throat and mouth should be free from any obstruction to free breathing, and the mouth must be free from any deformities that would interfere with free speech. An applicant that wears false teeth should be rejected. The objection to this is that if a man is overcome with smoke and has his teeth in place the plate is liable to become dislodged while he is asphyxiated and totally close the air passages. An applicant should, above all be free from any disease that will in any manner affect the nervous system of the body, as a man who is subject to nervousness cannot do his work efficiently and is very apt to endanger his life and the lives of his fellow workers in this line of work.

Character and Education of Applicant

We next consider the character and education of an applicant. He should be honest, and of a good moral disposition. It is essential that the men in this work be honest, as it is often that they have access to practically all buildings and offices which often contain valuable stocks and records. Their education should be far enough advanced to read, write, and speak English intelligently; their mathematical training far enough advanced to be able to figure hydraulics, such as friction loss in hose, velocity of stream at nozzle, discharge in gallons per minute at different pressures, (this is important as without the knowledge of hydraulics the effectiveness of a fire stream becomes a matter of guess work when working at different altitudes), the capacity of reservoirs and tanks of different dimensions, and the variation of pressure with the different water level in reservoirs or tanks.

The applicant should, if possible, be a man who is mechanically inclined, and who is able to adjust himself to different conditions and to different methods of work, for it has been found that fires, (especialy in industrial plants), resemble human beings, in that there are no two of them alike.

Organization of the Department

The next step to consider is the organization of the department. Two men should be selected from the ranks of the men already selected, these two men to serve as Assistant Chiefs or Captains.

The qualifications of these men should conform with the qualifications of the Chief in so far as it is possible.

The two platoon system of working hours should be arranged with one of the Assistant Chiefs in charge of each platoon, and Assistant Chiefs shall be in charge at all fires until the arrival of the Chief. It is important that these men have, or acquire, an ability in the training of men and should be good leaders. The Assistant Chief, who quite often is a closer associate with his men than the Chief, will soon acquire an inner knowledge of the ability of each and every man that he has on his platoon which is very important for efficient work, as one man may be a better climber than another and one may be able to work in smoke longer; all these things tend to make a more efficient fire fighting force.

It is important that each platoon consist of at least 7 men, as it requires 4 men to properly operate or handle one line of 2½" hose, and should several men be out of the department on inspection duty, or for other reasons, it would seriously impair the efficiency of the department if the platoons consisted of less than 7 men.

If the department has a motor apparatus in service there should be two drivers selected from each platoon, one of these drivers must remain in fire station or near apparatus at all times.

Relief System Should be Arranged

A relief system should be arranged whereby the men of one platoon may be relieved by the men of the other platoon, that is if the Assistant Chief of the one platoon desires to be off duty the Assistant Chief of the other platoon may relieve him, and each driver will arrange with a driver on the other platoon and the firemen to arrange with the firemen of the other platoon to relieve them when it is necessary for them to be off duty, but at no time shall any member be off duty unless he is relieved. A complete platoon must be maintained at all times.

"Discipline is very essential in the fire department, the disciplined company working quicker and with no lost motion at fires and maintaining a more orderly station. Officers should never forget that they are officers, and impress that fact on the minds of the men by demanding the respect and obedience due an officer."

One man should be selected to serve as field man or repairman, this should be a man who has some mechanical ability. His duty would be to install or erect all first aid fire equipment, recharge extinguishers used, test and recharge all chemicals yearly, flush all hydrants and hose connections and see that they are in proper working condition, test and reset all dry sprinkler systems yearly, keep all fire equipment clean and well painted, and in general, repair and assist in maintaining all fire equipment in perfect condition.

Discipline Very Essential

Discipline is very essential in the fire department, the disciplined company working quicker and with no lost motion at fires, and maintaining a more orderly station. Officers should never forget that they are officers, and impress that fact on the minds of the men by demanding the respect and obedience due an officer.

The efficiency of modern armies is explained by the team work of the officers and the absolute loyalty of the subordinates to the service. If the fire service is worth belonging to it is worth respecting and deserves loyalty. There is no room in the modern fire department for men who start factions or discriminate against others because of personal jealousies, political, religious or social reasons. When a man is selected as a fireman his duty to his employer is to serve faithfully and to the best of his ability; his position as a fireman is an honorable one, and the fact that the company realizes that his calling is a hazardous one and that he is willing to endanger his life in his work results in respect for the men who are permitted to become members of the fire department.

This makes it very important that each man be very careful not to injure the reputation of the service by neglect of duty or unbecoming conduct. In view of the fact that the average persons, as a rule, do not know the inside workings of the fire department, they are apt to base their opinions of the entire department on the conduct and appearance of the men whom they chance to meet on the streets, in the factory, and about the fire station. Neatness of dress, general good deportment, and men who are courteous, are, therefore very essential.

Work of Drilling the Men

With the men selected and the department organized, the work of drilling the men in the proper fire fighting methods should begin. With the present day advancement in the use and manufacture of dangerously explosive oils and chemicals, and many other hazardous substances, and with the advanced science in building construction, the fire fighter of today must be a jack of all trades and yet an expert in his line of work, that is, he must have a working knowledge of chemistry, architecture, volatile liquids, explosives, and kindred sciences.

He should be trained in the proper method of ventilating buildings, as the fire fighters' motto is "open up and let the smoke out and let the firemen in", methods of confining fires to small areas, or to drive the fire away from dangerous areas or to the outside of buildings instead of driving them in, and the protection of material against smoke and water damage.

Careful Instruction Needed

He should be instructed in the proper equipment to use and the method of extinguishing large fires in explosive liquids and how such fires may be confined to their tank or container by the cooling of the outside of container with large streams. The men should be drilled in the unreeling and coupling of hose, erecting and scaling ladders, taking large lines of hose up a ladder, lashing hose to ladders, how one man may operate a line of hose from ladder effectively, what effect the quick closing of a shut off nozzle will have on hose, and in case a section of hose should burst how to go about to replace it with the least lost time.

They should be drilled in lashing ladders, that is lashing two short ladders together where a long one is needed, how to use a ladder as a battering ram, how to find the distance the foot of a ladder should be from the building to be scaled, the danger of a back draft explosion of confined gases and smoke, and should be drilled on how to enter a building that is filled with smoke and how to find their way out again. They should know the location of all fire alarm boxes and be familiar with their operation, and know the different types of chemical extinguishers in use, and the different extinguishers to use on certain kinds of fires, such as carbon-tetrachloride on electric fires and foam extinguishers on grease fires, and to know the danger that exists in using certain extinguishers on certain kinds of fires.

Too much cannot be said in regard to the rules of handling of hose lines at fires. The officer in charge of a fire company operating at a fire should be on the alert at all times to see that a stream of water is properly distributed over the fire, and he should consider the angle at which a stream enters a door or window of the building on fire and to see that nozzle is lowered, elevated, or deflected to reach all points that fire conditions require.

To operate a fire stream properly it is the duty of all officers to have their eyes and minds on the travel of the stream and make every effort to educate their subordinates as to the proper use of same. A fireman should remember that his target is the fire and his ammunition is the water. If it is possible to do so cover all of the target quickly, and when a floor, no matter what type of structure it be, (liquid fires included), is fully involved with fire, see that the stream is entering at an angle such as to cover as much as possible of the floor using the ceiling as a deflector and shifting the nozzle to the right and left.

Proper Handling of Hose and Directing of Streams

If a floor in a commercial or factory building is involved with fire throughout its entire area, and the stock is a combustible one in cases, on shelves, or in piles, the stream should be so directed that it strikes the ceiling above and is deflected down on the burning material.

At such fires the heat generated is sometimes unbearable and the men in making an effort to advance on the floor assume a stooping position. In the majority of such cases the nozzle is so lowered that it strikes the bottom or base of the piles and never reaches the seat of the fire. Men in taking a line of hose in on such a fire find that they receive less punishment if they keep their faces close to the nozzle, for the water tends to cool off the atmosphere in its immediate vicinity and a certain amount of air is discharged from the nozzle with the water. But they should not lose sight of their object when looking after their own comfort, for if the stream does not reach the fire its progress will not be checked.

It should be remembered that the discharge from one ordinary line of 2½" hose produces a very large flow of water. If the discharge is 250 gallons per minute, then approximately a ton of water is being discharged per minute or 60 tons per hour. The quantity of water required to extinguish certain fires, especialy those in light materials is comparatively small if it is properly distributed, while loss from carelessly handled streams may be large.

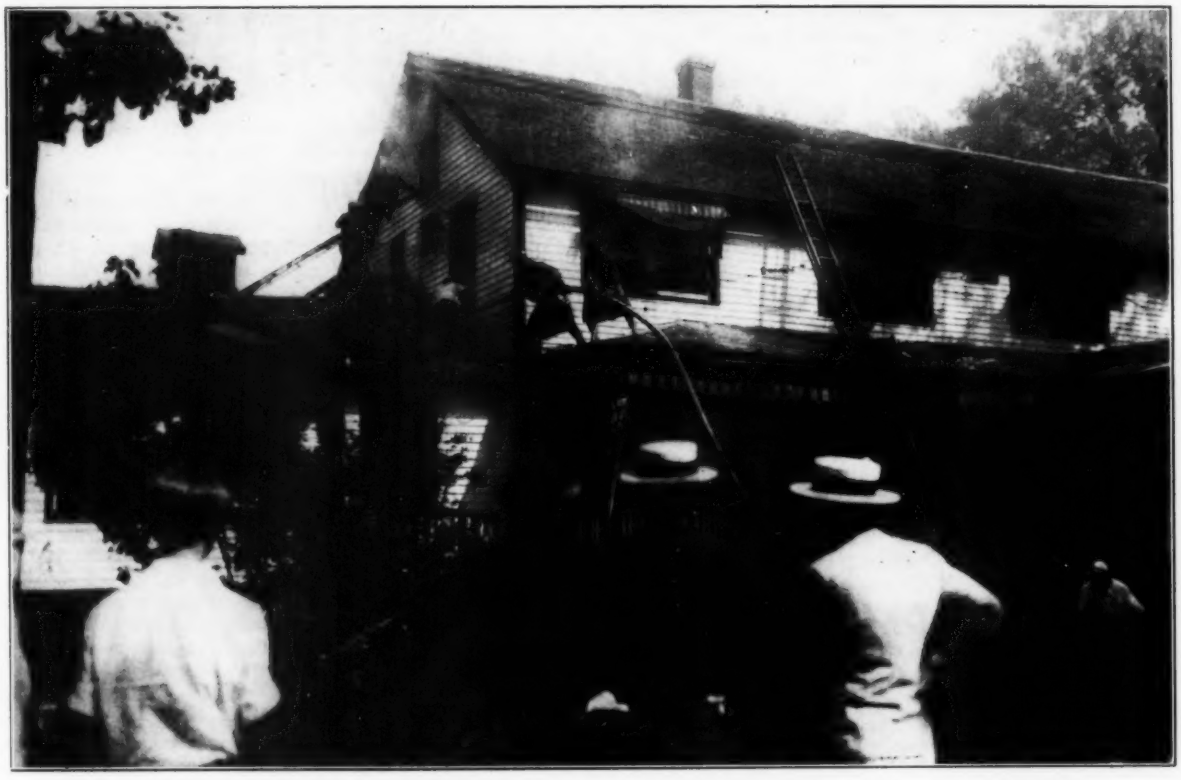
Arrange for Daily Test Alarm

Daily test alarm and drill periods should be arranged. An alarm box should be pulled or an alarm sounded, the firemen responding to this alarm with the utmost speed and alertness as though it were an actual fire. Drills so arranged are very educational to the firemen, as they acquaint themselves with the shortest possible route to each alarm district and box, doors and passageways through buildings stored with material, and it should be so arranged that the men responding to these alarms are given the location of an imaginary fire at each alarm as they will use hose lines and extinguishers at these fires and when an actual fire does occur they will have an advance knowledge as to the proper

(*Continued on page* 503)

A London Fireboat in Action on the Thames

A large crowd gathered to watch the firemen and fireboat battle with a fire that broke out in a warehouse near the Thames River, London, England. Contrary to American design the fireboat does not have a tower and is built along lower lines.



When the Fire Spreads Throughout a Floor or Involves the Attic, Larger Streams Are Needed

At most residence, or small town commercial building fires, chemical lines or small lines from booster pumps will handle the work satisfactorily. But when fire spreads through several rooms, or involves a floor, or the attic of a building, streams 1-inch or 1¼-inch diameter are usually put in operation. Such streams are employed only until the fire is darkened, when smaller lines are again utilized for killing the remaining fire in partitions, in corners, and in concealed spaces.

Handling the Small Town Fire

Combustible Construction, Deficiency in Apparatus and Untrained Personnel Principal Handicaps—Suggestions in Connection with Handling Such Fires

THE advent of the automobile fire engine materially improved fire-fighting methods in small towns and villages. Not only did it improve local department conditions, but it made available apparatus from surrounding communities, which may be called in in an emergency.

Mutual aid systems are coming into vogue throughout the country and the time may eventually arrive when all small towns will have at their call a number of pieces of apparatus from surrounding communities. Incidentally, this does not mean that any town will ever be justified in curtailing the amount of apparatus it buys, and depending upon help from neighboring towns. These community, or mutual, organizations are built on the idea that each town is capable of handling all of its own fires with the exception of very large ones, and in turn each town must be in a position to contribute real assistance to its neighbors. This, then, means that each town must maintain a good fire department to be eligible for mutual protection within the district.

The great predominance of frame buildings in the small town is largely responsible for severe fire losses which are experienced. To hazardous construction may be added, as a contributing factor to town fire loss, inadequate apparatus and untrained personnel.

The question of training is of greater importance than at first seems to be the case. Experience in extinguishing fires enables a department to perform much better work than could be expected where it has had no experience.

A comparison, for example, between a paid fire company of a large city operating at a fire and an inexperienced volunteer company of a small community similarly engaged is characteristic. The paid department men, due to the greater variety of fires they have had opportunity to fight, and the fact that fire fighting is their daily work, possess that knowledge of fires and usual paths of extension to enable them to get in close and do work very quickly. On the other hand, a green volunteer unit, not widely experienced at fire fighting, and particularly at inside work, may be inclined to do most of the work from the outside of the building, with the result that heavy damage would likely be done.

The bucket brigade need not be considered here, for it is rapidly being replaced in all of the smaller municipalities by motor apparatus. Furthermore, a fire department which has only buckets to utilize in extinguishing operations cannot be considered a fire department in the sense of the word here used.

Present apparatus predominating in small communi-

ties includes chiefly the motorized chemical apparatus and small pumping units, the latter usually equipped with a water tank or chemical tank.

The first type of apparatus is very effective for small fires, and has to its record a very large percentage of quick stops, even in large cities.

As the majority of fires are discovered in their incipiency, chemical apparatus is suitable in most cases for operating on such fires. But chemical lines, wherever possible, should be backed up by water lines so that in the event that the fire gets beyond the capabilities of the chemical streams, water streams can be brought into play without delay.

The lines from booster tanks, which are usually of small diameter with small nozzles, serve in very much the same way as the chemical lines. But instead of using chemical reaction for creating the pressure to discharge the water, a small booster pump is employed. Water from the tank on top of the apparatus is taken by the pump and forced through the hose, being delivered at suitable pressure at the nozzle. The tank can be kept supplied while the pump is in operation and in this way a continuous stream of water is delivered on the fire.

Hand chemical appliances are satisfactory for use on very small fires, where they are readily reached.

As noted above, the majority of fires are small when the department reaches the scene. The use of a small stream from a chemical engine or from a booster pump will usually do the work, if applied at the proper point. But this necessitates bringing the stream to such a position that the burning materials can be seen before the stream is started. Where shut-off nozzles are employed, they should not be opened up until such a point is reached that the materials which are burning can be struck with the stream.

Where but a single room is involved, a quick dash of a stream over the burning surface will usually darken the fire. Where the fire has spread through several rooms of the building, and has burned into the partitions, then the small streams are not quite suitable. Larger streams such as 1-inch, must be employed to kill the body of the fire, and the work can be finished up with the smaller lines such as those equipped with ¼ to ½-inch nozzles.

The methods of handling specific types of fires has been described in previous issues, and readers are referred to these descriptions for details in extinguishing operations.

Water Supply

The question of water supply is frequently a serious one in the small town. If a water system is not available, the department must depend upon one of three sources: streams or ponds, cisterns, wells.

Large bodies of water, or streams, are the most satisfactory for supplying engines, due to the unlimited supply which they afford. Cisterns, where the lift is small, are next in line, but their limited capacity reduces their value. Wells are of but little value compared to streams or ponds, but in many cases they are the sole available source of supply. If sufficient of them are present, and the lift is not too great, several may be utilized to keep the booster tank on a pumper supplied.

Occasionally, where the fire has gained considerable headway, requiring the use of larger streams, it is necessary to deliver water through long stretches of hose. Due to friction loss in the hose, long lines may prove useless unless supplied by more than one engine.

Engines may be placed in two arrangements to supply a long line: tandem or relay.

When engines are placed in tandem they are placed close to each other, the discharge of the first engine supplying the intake of the second. The pressures of the two engines are approximately added by this operation, and sufficient pressure may thereby be created to provide satisfactory pressure at the nozzle. Of course, this arrangement imposes a severe strain on the hose at the discharge side of the second pumper.

A better arrangement than this is to place the engines in relay, where the first engine will take supply from the source and deliver it through approximately half the length of hose to a second engine which in turn picks the water up and forces it through the remaining half of the line to the nozzle. Such relay layouts have been used in numerous cases, and at many times with very excellent results.

Where outside departments are called in to give assistance, it is frequently found that the hose couplings are not of the same threads as those of the local department. In such a case, special provision must be made to connect the hose of the visiting department to local hydrants or to local hose lines. In the case of local hydrants, universal hydrant couplings prove very effective for they enable any hose line, no matter what thread its couplings possess, to be connected to the hydrant.

For connecting dissimilar couplings of hose lines together, either adapters or patented hose jackets may be used, such as the Cooper hose jacket.

Taking Suction

In an emergency, where no special applances are available, but where it is necessary to take supply from a hydrant, an emergency measure may be provided by placing a trough, a large box, or other container beneath the hydrant outlet, or digging a basin beneath the outlet of the hydrant and placing therein a waterproof cover to form a watertight basin. Then the suction of the engine may be placed in the receptacle so formed and water taken and delivered through the line.

Exposures

Fires in small towns are apt to spread chiefly by three means: by sparks lighting on shingle roofs, by sparks lighting in dry grass and fire spreading to adjacent buildings, or by radiant heat.

In protecting surrounding buildings it may be necessary to put to work bystanders, who should be directed to patrol the exposed area carrying buckets of water and carry, if available, brooms or wet bags so that small blazes may be beaten out before they have had a chance to gain a hold on fences, dwellings, outbuildings, etc. The best protection against radiant heat is to wet down the exposed surfaces of adjacent buildings.

Lack in skill of fire fighters in small towns must be made up by numbers, and for this reason no time should be lost in putting to work any available men at the scene of the blaze.

Salvage Work Lowers Albany Fire Losses

In addressing a firemen's training school at Troy, N. Y., Captain John J. Sheedy in charge of the salvage corps at Albany, N. Y., stated that efficient salvage methods with adequate fire fighting equipment and personnel has been a tremendous help in lowering the city's fire losses.

He said, "Cities all over the country are coming to realize that not much in excess of twenty-five per cent of damage is directly chargeable to actual fire loss. Much damage is caused by water. This much has been proven to our salvage patrol in Albany, for we have found that fast work with the tarpaulins is our secret of keeping down property loss. Fire chiefs in many cities are realizing the value of a salvage corps, for fewer fires with curtailment of property damage are good indicators of a chief's generalship."

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

JUST about this time of the year when the country is attractive with trees decorated with cool, green leaves, when gardens and farms commence to show rows of sturdy vegetables and the great outdoors beckons, the city dweller envies the rural resident. For those away from the confines of the city are free from congested areas and free from the hard pavements, but they are, in many cases, also free from the benefits of organized fire protection.

In many of the rural and farming communities, the residents depend upon the nearest city for assistance in case of fire. While in dollars and cents, this practice is not sound, it is continued because of the willingness on the part of the city to be neighborly and to help another community should it be visited by misfortune.

However, insurance interests are very much against the practice of one community sending apparatus beyond its corporation or city limits. They reason that insurance rates are established because of existing fire department defenses. If after the rates have been established, apparatus is taken out of an area so that it is not adequately protected in case of fire, then the rates were constructed upon a false foundation.

So the village or community that is surrounded by rural property, is between two conflicting desires. Shall it be neighborly and send apparatus to outside districts in time of fire, or shall it establish a rule that no outside calls will be answered?

Conditions such as these have brought about a new step in rural protection.

Farming areas, generally, can not support a volunteer fire department. So a plan has developed for the farmers to get together and purchase apparatus specially designed for rural protection. The apparatus is housed in a station of an adjoining city or community having an organized fire department. There is no charge for this service. But in return, the farmers who have purchased the apparatus agree to permit the city to use the apparatus for local use, should an occasion arise.

Before such a scheme can be placed in operation, it is necessary to have some means for financing the purchase of the apparatus. While popular subscriptions have been used, it places the greatest burden on the more generous person. To avoid this, some communities have tried selling shares in the apparatus. Fire department service is only given free to shareholders—all others must pay in accordance with a regular rate for non-stockholders.

The problem in full that is treated in this issue appears in the box on this page. In the box on the following page is the problem that will be discussed in the next issue. Should you have some comment that you would like to add to the next discussion or if you have a question that you would like to see treated in this department, write to "The Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y. This service is free and readers are urged to avail themselves of it.

HERE IS THE PROBLEM

Have you tried selling shares to property owners when purchasing apparatus for rural protection?

Has the plan been successful?

What have been some of the difficulties in putting such a plan into effect?

The Question

A number of chiefs have reported experience with community fire apparatus but very few have had any direct experience with the share-selling plan of raising the necessary funds. The common practice appears to be either a house-to-house canvass, or to have the borough purchase the necessary apparatus. Following are the replies that have been received.

A. A. Markword, Chief, Rushville, Ill.: A plan of purchasing a community fire truck was tried about two years ago but did not meet with success due to a lack of interest among the farmers. The only farmers interested were a few who had suffered losses by fire. Another reason the plan failed was because that prior to three years ago the city council would not permit the department to take apparatus outside of the city limits.

I believe that in the near future something worth while can be accomplished in the matter of rural fire protection.

R. S. Wensel, Chief, Brookville, Pa.: We have never tried selling shares, but conducted a house to house canvass for subscriptions when we bought our first piece of apparatus. The people generally contributed something. However, we did have those who said "let the town pay for what you need."

Henry W. Breder, Chief, Egg Harbor City, N. J.: We have never sold any shares to finance the purchasing of apparatus. When apparatus was purchased, company money was raised through entertainments and carnivals. However, the city buys most apparatus, equipment and supplies when they are needed.

I do not think selling of shares would be very successful in our community. People would not be interested in purchasing shares or stocks of any kind, unless they were a paying proposition.

E. F. Coop, Chief, Pasadena, Cal.: We have nothing to do with the protection of rural territory. This is a county matter and in a large degree is taken care of by the forming of county fire districts that tax themselves in accordance with the amount of fire protection desired.

James A. Bird, Chief, National City, Cal.: We have never attempted or considered any arrangement of selling shares to property owners. We answer about fifteen calls or so in a year from surrounding territories without charge. The city feels that these people do most of their buying in our city and for this reason it is only a matter of friendly cooperation to assist them when they are in need. And furthermore, the cost to the city is practically nothing.

Phil J. Conway, Chief, Dwight, Ill.: Dwight has just completed such a project and the farm owners within a radius of six miles of the village were asked to subscribe to the plan. The response met with on the part of farm owners was very gratifying—the quota set being over-subscribed by ten per cent. At the present time seventy-five per cent of the pledges have been converted into cash and the American-La France and Foamite Industries will make delivery in about six weeks.

E. N. C. Davis, Chief, Haddon Heights, N. J.: When our borough was constituted, we started a fire company. At that time our mayor, Frederick Fries, believed that everyone should pay their share for the protection of their property in their taxes. Therefore, all of our apparatus is owned by the borough.

Ray D. Wells, Chief, Falmouth, Mass.: This municipality covers an area of 68 square miles and contains both rural and urban type of communities therein. The area is protected throughout by five stations, including headquarters, housing four pumping engines, four hose wagons, one ladder truck and one squad car. Also, separate apparatus is maintained for forest fire protection.

Rural protection is quite adequate and is purchased by the town of Falmouth for the entire area and is paid for out of the tax levy.

We have never tried any other means in order to get fire apparatus, as the town has been very liberal, and has furnished, without stint, complete fire protection and, as far as possible, complete water service for both domestic and fire protection. Few villages in the township lack running water.

Alfred Heinke, Chief, Dolton, Ill.: We do not maintain special apparatus for rural fire protection as all of the towns in this vicinity cooperate in case of fire.

Thos. T. Henderson, Chief, Highland Park, N. J.: We have never tried selling shares to property owners in order to purchase apparatus for rural communities.

Highland Park is a borough and all apparatus is purchased by the borough.

C. A. Higgins, Chief, Vandalia, Ill.: The question of rural protection has never been brought up here. We answer all calls where our assistance is needed, and where our dirt roads permit us to respond.

Abner W. Hostetter, Chief, Palmyra, Pa.: While we have never tried selling shares to finance the purchase of apparatus, we can say that from the experience of others that securing funds in this manner is often very difficult.

Henry A. Christ, Chief, Milltown, N. J.: Our borough officials buy all of our equipment. I believe this is the way every town should purchase apparatus.

Wm. Gilchrist, Chief, Alton, Ill.: We have never tried to sell any shares to people in rural districts. We respond to any call for assistance from a neighbor if such is possible.

M. B. Hull, Chief, Morris, Ill.: We have been unable to interest the rural districts in fire fighting. We have our apparatus all equipped with booster tanks and small hose which we use for this purpose.

H. A. Johnson, Chief, Ventura, Cal.: We have never tried to sell shares to property owners when purchasing fire apparatus, because the majority of the farmers of this section are unwilling to pay for fire protection. They nevertheless expect neighboring cities to respond to rural fires with their apparatus, a custom which we have discontinued.

G. E. Zimmerman, Chief, Coronado, Cal.: As we have never tried such a proposition I am unable to offer comments or suggestions. I do believe, however, that such a scheme would prove successful in some districts while in others it would not.

M. T. Horst, Chief, Elizabethtown, Pa.: The plan as stated in your question has never been tried by our department, as all apparatus is purchased by the borough.

Glenn Atwood, Chief, Upland, Cal.: As all fire apparatus is owned by the city, we have had no experience along the line suggested by your Round Table question.

Basil Roberts, Chief, Inglewood, Cal.: We have never tried out such a plan as stated in your question, whereby property owners are solicited to buy shares in the purchase of fire apparatus for rural districts.

Walter Luff, Chief, Westwood, Cal.: A tank car with pumper and chemical truck responds to all rural fires in our vicinity. A proposition such as stated in your question has never been tried out by us.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

How do you number or mark your fire hose?

How long is the hose permitted to remain in the hose tower?

What records are kept of the hose in your department?

Answers to Previous Questions

M. N. Cleveland, Chief, Sanford, Fla.: Inhalator cases are handled by the fire department hospital and it is this department hospital which is called in case of accidents. We do not maintain a trained first aid crew for such work, but I believe that all fire departments both large and small should have such a crew available.

J. W. East, Chief, Hopkinsville, Ky.: We have neither inhalator or regular trained first aid crew. I do believe, however, that we should have both, and would be glad to train members in this line if the equipment could be secured.

F. F. Martin, Jr., Chief, Cohasset, Mass.: The funds for financing our department are appropriated by the town. Carnivals and other performances of a similar type are not permitted in this town.

D. J. Rayburn, Chief, Eldorado, Kans.: The newspapers have been a great help to the fire department in Eldorado and have given any publicity asked for. I have always made it a point to get publicity at time of dry seasons, or to notify the public of any extreme hazards to guard against.

There is no doubt but that favorable newspaper comment has made a great impression in this city and gives the average citizen a better understanding of the work and operations of the fire department.

I have found the newspapers of my city willing to cooperate in every possible way, and have always endeavored to give a true account of the happenings in whatever the case might be.

S. C. Firemen Unveil Tablet

In connection with the twenty-fifth anniversary of the organization of the South Carolina State Firemen's Association in Columbia, a bronze memorial tablet was placed in the office of the Columbia Fire Department.

The tablet was unveiled by Ruby MacMarsh, daughter of Chief Marsh of the local department.

The address by Chief Louis Behrens of Charleston and president of the association was a feature of the exercises. He paid tribute to the founders of the association and pointed out some of its outstanding achievements. He said:

"When the organization was founded in 1905, only a small number of the departments had steamers, water systems and pressure hydrants.

The following inscription, which includes the names of the men who founded the organizations is on the tablet: "In commeration of the founders of the South Carolina State Firemen's association, organized May 30, 1905, at Columbia, S. C.

"Louis Behrens, W. J. May, R. S. Hood, T. O. S. Dibble, W. H. Ohland, E. A. Ricker, T. O. Stewart, G. G. McKerall, J. A. Mullikin, T. G. Austin, G. A. Shellito, M. Greenwaid, H. L. Watkins, W. M. Young, E. W. Haselden, Jr., T. W. Halsall, C. S. Cromer, W. C. Dowie and T. C. Zoble."

Newburyport Discharges Call Firemen—Mayor "Bossy" Gillis of Newburyport, Mass., has dismissed twenty-five call firemen so that the department now consists only of permanent firemen.

With the Editor

The Hazard of Floating Dust

Dust mixed with oxygen—that is to say floating in the air—represents, as is well known to the fire chief, a serious explosion hazard, and every precaution should be urged upon all businesses whose processes result in the formation or throwing off of minute combustible particles which, being lighter than air, float in the atmosphere in the form of dust.

It matters little what the material is—it may be flour, sawdust, coal, metal, or many other combustible substances. The fact remains that, with contact of fire or spark, there is liable to ensue a disastrous explosion, which may result in loss of life and heavy property damage.

There is usually in such explosions the human element as at least a contributory cause. In other words, the carelessness of some individual, lack of proper precautions, or ignorance of what should be done to avoid the possibility of such a disaster, will be found upon investigation. There is little excuse for either ignorance or carelessness in the handling of such processes, as the persons in charge of establishments where processes cause quantities of dust to arise know full well the hazards involved. Through the studies of such experts as David J. Price of the United States Department of Agriculture, the causes of dust explosions have been thoroughly analyzed and the remedies explained.

Chiefs of fire departments having establishments within their limits in which the hazard of dust explosion exists, would do well to acquaint the heads of such businesses with the risk that is run if the proper precautions are not taken, and if a dangerous situation exists, refer them to the experts of the Department of Agriculture for information as to the best method of handling such a condition. By so doing the Chief will not only avoid a possible disaster, but will also make friends of the manufacturers, when they are made to realize the danger from which he has saved them.

The Fire Department Short Course

The holding of short courses in firemanship is becoming quite general and there can be no doubt that such instructions are of great value both to the men taking part and to the fire department in general. Such courses offer opportunities not available in many instances in any other way. Better methods of fire fighting will not only reduce the loss by fire but will also bring down the water damage. If the attendance at such courses is limited through the inability of many of the men to spare the time or from other causes, certain bright members of the company can be detailed to be present and they can in turn bring the ideas gained during the instruction back to the department, so that all of the men can receive the benefits of the course at second hand.

Modern improvement in manufacture and commerce has brought with it many new hazards. Even in small communities there will be found large quantities of inflammable materials and liquids, and the manufacture and storage of these represent many new problems that the fireman must master. Dangerous chemicals used in processes of manufacture, the extensive use of electricity in all branches of trade, the nitro-cellulose motion picture film, pyroxylin painting processes and many other hazards must engage the attention of the fire fighter, and he must know something of them to successfully fight modern fires.

All such subjects are treated in these firemanic courses including building construction, elementary hydraulics, the knowledge of chemicals and gases, the proper care and maintenance of fire apparatus and appliances, drills, evolutions and instruction in all fire department practices.

Besides this, there are the round table discussions, at which the practical experiences of others are made available to those attending. This is particularly valuable, in that each man present may be able to impart some new idea or method to his fellows or relate some experience that may be of help to another. The more departments represented at such short courses the better it is for all concerned.

Protecting Rural Communities From Fire

The problem of the protection of rural communities from fire is apparently nearing a solution. It is not so long ago that the first experiment of rural community protection through city or town co-operation was regarded rather skeptically by city authorities. The idea of a farm fire apparatus primarily manned for the purpose of protecting the rural dwellers and their houses and barns from fire, seemed an almost impossible dream.

But the idea has proved so practical that now numbers of such isolated communities have banded together for some sort of fire protection. In many cases it has come about through an agreement with the nearest town or city, whereby the apparatus is housed in such municipality and manned by a picked crew, outside of the regular fire department, or even in some instances, a part of it. Such unit is understood to be set apart for special duty for the protection of the surrounding farm property.

and answers the alarms of fire that come in from the outside so promptly that in many cases rural houses, barns and other structures that under the old regime would have been doomed to destruction have been saved from the flames and thousands of dollars thus kept in the pockets of the farmers through such co-operation.

The advantage to the local city or town fire department by such an arrangement can hardly be estimated. The apparatus which would have been tied up in answering rural alarms is released from this work and is at all times available to its legitimate purpose—the protection of the municipality from fire. Before the adoption of a rural fire protection scheme as just outlined or some similar one, conditions had become so bad that many cities absolutely refused to allow their fire apparatus to go out of the limits for any purpose. This, while it possibly savored of selfishness, became a practical necessity, as the calls from outside were so frequent and the withdrawing of apparatus when they might be urgently needed so dangerous, that cities were compelled to take some such action as a measure of self-protection. This fact has probably hastened the adoption of the various plans now in use for rural fire protection.

Be that as it may, the movement for the protection of the farmers from the dangers of fire by concerted action on their own part, is fast becoming general and it will be wholly beneficial to all concerned.

CHIEFS' EMERGENCY AID PLAN HOLDS FIRST ANNUAL DINNER

Chief George S. Towle of Larchmont, N. Y., Who Conceived the Idea, Presented with Silver Loving Cup—Mayors Pledge City Cooperation

By WM. JEROME DALY

THE Fire Chiefs' Emergency Plan of Westchester County, N. Y., a co-operative scheme for fire fighting assistance on a reciprocal basis between neighboring communities, took on added form at the first annual dinner of the composite organization at the Westchester Manor on Hutchinson River Parkway, Wednesday evening, May 28th, where expressions of renewed support for the scheme were heard from the Mayors of two cities and from the fire chiefs of other towns.

The idea was conceived by Chief George S. Towle of Larchmont. Formal recognition was symbolized by the presentation of a huge silver loving cup to Chief Towle, the first president of the organization. The presentation was made by Chief James Mulcahey of Yonkers, who proclaimed Chief Towle in the most laudatory way and said the fire departments and the people of Westchester county owe him a life long debt for his far-sightedness and his fire fighting ingenuity. Chief Towle in accepting the gift said he neither deserved or merited the trophy, that the bulk of the work of organization had been done by the committee rather than by himself, but that he would nevertheless be proud of the emblem for the rest of his life.

The toastmaster, Eugene Riviere of Larchmont, gave an outline of the plan in which he described the early efforts of Chief Towle to inaugurate a bond of understanding and camaraderie between neighboring chiefs, with a view to helping one another in time of conflagration or unusual or threatening conditions; that a committee of four was formulated, consisting of Chief Towle, Chief Walter Jones of New Rochelle, Chief Mulcahey of Yonkers and Chief John J. Brennan of Pelham Manor; that they held several meetings, and that to-day the Plan has about one hundred members, all with one another's interest at heart, to encourage the advancement of fire fighting and to give one another the benefit of an interchange of ideas and opinions, as well as material help when needed.

Chief Mulcahey of Yonkers, secretary of the International Association of Fire Chiefs and an early advocate of the plan, said one of the best accomplishments thus far, was the assurance from New York City, guaranteeing aid in every respect at the hands of Chief John Kenlon, of whom he said some very complimentary things. He told of Kenlon's assurances of response by the New York Department to border-line boxes in case of emergency and he dwelt on "the nicest feeling of congenial and courteous treatment every time the committee went to New York City." Chief Mulcahey said there is "no greater tutor in the country to-day in fire fighting matters than John Kenlon, who has promised us at least one major assignment of apparatus if we ever find ourselves in need of help."

Mayor James Berg of Mt. Vernon pledged the wholehearted support of his city. He likened the plan to the principle practised by farmers of the old school, who, when ill and unable to work their farms, were helped by their neighbors who came and gathered in their crops and did their chores for them until they had recovered.

"What a feeling of safety to know that an instrument of security is at your door in time of fire," said the Mayor of Mt. Vernon, as he added that he has given Fire Chief John Gibson of that city permission to take all available apparatus to help any neighboring community. He wished the Plan success and branded it as one of the greatest assets of Westchester county.

Mayor Walter G. C. Otto of New Rochelle strongly advocated the Plan in a few terse words.

Dr. Amos O. Squire, Medical Examiner for Westchester County, was the guest speaker of the evening. He brought to the fire fighters a message of prevention and anticipation in which he cautioned them to take stock of local hazardous conditions and to make frequent surveys. He dwelt at length on a recent fire in a private hospital at Irvington-on-the-Hudson, where heart ailments of children were specialized in, and of how water supply was found wanting when the fire occurred at 4.30 p. m. Fortunately, most of the little ones were playing on the lawns of the hospital grounds at that time. He described a condition which revealed that not only was there no water, but if there had been water, the electric pump that maintains the reserve supply was also found to be deficient. He recited other Westchester county fires and pointed to them as warnings of what the fire chiefs should do and look out for before a fire occurs. Dr. Squire gave some interesting statistics

(*Continued on page* 504)

West New York Wins County Cup

At a Lions Club luncheon meeting attended by various city and county officials, West New York, N. J., was presented with the Stetcher cup for the greatest reduction in fire losses. The contest is open to fire departments in the county.

Gilbert E. Stetcher, chairman of the Hudson County Safety Councils' fire prevention committee, presented the cup to Chief Ernest G. Beckert and said that it should be considered a reward for service but more as a symbol of progress in fire prevention.

The cup, an inverted silver fire trumpet, was previously held by Bayonne, Jersey City and Hoboken.

Chief Ernest G. Beckert

Chief Beckert in accepting the cup, and in response to the tribute paid him and the firemen, said that the action of the Mayor and the Board of Council in furnishing the department with equipment and increased personnel was a contributory factor to the general efficiency of this service. He also praised the splendid cooperation of the citizens and taxpayers in keeping fire hazards down to a minimum. A highly complimentary letter was read from Frank J. Walsh, managing director of the Safety Copncil, on the results attained by Chief Beckert and his department.

Mr. Bond of the National Fire Protection Association spoke on defective building construction and other causes of conflagration. There were other talks at this meeting.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Discovering Fire When Responding

To the Editor:

The writer would like data on the following questions, on making a run to a fire and on the way discovering another fire; also as to the duties of the man in charge of the company in handling the situation.

1. What would be the proper thing to do in case a box alarm came in from the outskirts of town, and in responding to the alarm another fire was discovered in the outskirts?

2. If the alarm came in for the same fire as above, and a fire should be discovered in the business district, what should be done?

3. A centrifugal pump would not take suction on account of a cracked discharge valve. Pump was primed with the booster tank of water to seal the crack long enough to create a vacuum. There has been a lot of comment on this incident, but we would like to have your opinion on the matter. Was the driver right or wrong?

H. L.

Answer: 1. The action of the company officer would depend entirely on conditions encountered. If there were a severe life hazard at the fire discovered enroute to the box alarm, then the officer in command of the company should immediately stop at the fire, and put his company in operation. At the same time he should direct one of his men to communicate with headquarters and notify them what action had been taken so that the original fire could be covered by another assignment.

On the other hand, if the second fire discovered were either a minor one, or represented no life hazard, then the proper procedure would be to drop one man off at the second fire so discovered and the company proceed on to the box from which the alarm was transmitted. The man so left would send in an alarm from the nearest box and take whatever action he could alone until the arrival of apparatus.

Answer 2. The same would apply in the situation where a fire was discovered in a business building while responding to an alarm as in quesiton 1.

It is merely a question of judgment—which action would be deemed the better.

Answer 3. The situation described in your question is not clear. A broken discharge valve on a pump should not interfere with the primer taking suction.

This much may be said, however, if the use of the water in the tank served to prime the pump, and it operated satisfactorily thereafter, the operator of the machine deserves credit for using his head.

Drafting and Siphoning

To the Editor:

Will you be kind enough to answer the following question: What is the difference, if any, between drafting and siphoning, in regard to the height water can be lifted?

In siphoning water are we governed by atmospheric pressure as in drafting?

Would it be possible to siphon water 100 ft. or more in a layout such as shown in the diagram herewith?

D. C.

Answer: There is a slight difference between drafting and siphoning of water in regards to the height the water can be lifted. It can be lifted a little higher by siphoning than by drafting due to the fact that in siphoning a complete vacuum is more nearly approached.

With pumping, there is always a possibility of leakage of air in the pump from the discharge side to the intake side, with the result that 28 feet is about the maximum water can be lifted by an ordinary fire engine.

However, we are governed by atmospheric pressure in siphoning as well as in drafting.

All we do in either case is to create a vacuum within the suction line, and the atmospheric outside pressure forces the water up into the suction line to such a point as to balance the vacuum. In other words, when we exhaust the air from a line or create "suction" therein, we have a pressure much less than atmospheric pressure. Having less pressure within the suction line than we have on the outside, these pressures tend to equalize themselves by the atmospheric pressure forcing water up into the suction line.

No, it would not be possible to siphon water 100 feet or more by such an arrangement as you show in your diagram. Even if there were no gases or vapors present in the water which would tend to reduce the vacuum, it would not be possible to lift water more than 33 feet, at approximately sea level.

Relaying at a Fire

To the Editor:

The accompanying sketch is a layout test that resulted from a discussion in the method of re-laying water at a fire. An answer from you would be greatly appreciated.

A fire occurs in a shed 15 x 30 feet, one story frame (no exposure), occupied by a carpenter as shop and storeroom. It is located 2,750 feet away from a hydrant fitted for 2½" hose.

Two engine companies respond with pumping engines and hose wagons equipped with 69 lengths of 2½" hose.

Fireman A. Claims:

1. A 1⅛ inch nozzle, 54 lbs. nozzle pressure, with 275 G.P.M. will be sufficient to handle the fire.

2. That the layout in the sketch is proper as four lengths of hose should be held in reserve so as to replace any length that a coupling might blow off of.

3. That the fire engine should be placed 8 lengths away from the hydrant so as to make use of the 80 lbs. hydrant pressure, thereby reducing excessive pressure on the discharge line to second engine.

Fireman B. claims:

1. That a Y-connection should be used near the fire with two lead lines with 1" nozzles.

2. That all the hose should be used and none held in reserve.

3. That the first engine in a relay should be connected to the hydrant with the suction connection 4½" size regardless of hydrant pressure.

Answer: In answer to the first question any answer given would be nothing more than a conjecture. A single good stream such as you would get from 1⅛" nozzle at 54 lbs. pressure might be far more effective than two 1" streams from lines fed by Y-connection. On the other hand, the two separate nozzles might be better in the event that fire was burning in partitions where it would be necessary to cover more than one point at once.

With reference to the second answer, the practice suggested by fireman A would probably be the better of the two, because in layouts of this type, where excessive pressures are apt to be encountered, there is possibility of hose lines bursting. Very often the lines used in suburban sections are not capable of withstanding high pressures, due to the fact that they are never subjected to such pressures and

may not show any inherent weakness due to age or abuse, until high pressures are encountered. For this reason burst hose is very likely in such a layout, in the suburban districts.

In answering the third problem, A also gives the better practice. There is no reason why the full benefit of 80 pounds at the hydrant should not be secured by making parallel layouts as is shown. Were the engine placed at the hydrant, then the pressure at the discharge side would be so much greater, with the result that the hose on the discharge side near the pumper would be under greater strain.

NEW YORK TESTS CHRYSLER BUILDING STANDPIPE SYSTEM

Seven Tests Made of the Fire Pumps Located on Various Floors of the World's Tallest Building—Pumpers to Force Water at Later Date

By WM. JEROME DALY

THE Chrysler Building, tallest in the world (until the Empire State Building is completed in 1931) standing 1040 feet high to the tip of the spire, or seventy-four stories, on Lexington avenue from 42nd to 43rd streets, opposite Grand Central Terminal in New York City, had its fire line standpipe system recently tested by the staff of the Bureau of Fire Prevention of the New York Fire Department.

The Chrysler Building

This is the world's tallest structure. A still taller building is being erected.

Fire Commissioner John J. Dorman has not as yet formally approved the system, pending adjustment of certain technicalities in construction relative to the location of control valves which have not yet been placed in the pump room of each relay unit.

The test was conducted by Chief Inspector Michael J. Reidy of the Bureau of Fire Prevention, assisted by the staff of the Fire Appliance Division of the Bureau. According to the official blueprint made of the test and issued by Chief Inspector Reidy, the Chrysler Building has three pumps and four tanks feeding three main risers of eight inches each, supplied by a six-inch City water supply main.

The cellar has a 300 h. p., General Electric, alternating current, slip ring induction motor, 3-phase, 220 volts, 60 cycles, 662 amperes. The cellar pump is rated 750 gallons against a head pressure of 470 pounds, with 1,750 R. P. M., Le Courtney centrifugal. The control panel has 12 speeds, Sundh control, 300 h.p., 1,200 ampere switch.

The 25th story has a 200 h.p. motor, G. E., A. C., 3-phase, 60 cycle, 208 V., 458 amps., 1,800 R.P.M.; a 750-gallon pump against 288 pounds head pressure, 1,750 R.P.M., fire control panel of nine speeds, 200 h.p., 800 ampere switch.

The 48th story has a 150 h.p. G. E., A.C., motor, 60 cycles, 220 V., 348 amps., 1760 R.P.M.; a 750 gallon pump against 197 pounds head pressure, 1750 R.P.M., a fire control panel of five speeds, 150 h.p., 208 V., 340 amps., and 360 ampere switch.

The water supply:—

1. Cellar—a 10,000 gallon suction tank, fed by 6-inch connection from city water main containing 55 pounds minimum pressure.

2. 27th story—15,000 gallons gravity and suction tank, (5,000 gallons fire reserve).

3. 49th story—15,000 gallons gravity and suction tank (5,000 gallons fire reserve).

4. 73rd story—15,000 gallons gravity tank (3,500 gallons fire reserve).

5. Two, 250 G.P.M. tank filling pumps, drawing from separate 5,000 gallon tanks in the cellar.

All tests conducted with 2½ inch hose, with 1⅛ nozzles discharging into tanks described in the following schedule of tests:—

Test No. 1—Cellar to 27th story. Starting at 160 pounds on first speed, the pump delivered 25 pounds by a piezometer reading at 27th story tank. Pressure raised to 5th speed, 210 pounds, showing 65 pounds within five minutes on 27th story. No suction indicated.

Test No. 2—Cellar to 49th story tank. Starting at 200 pounds on first speed, the pressure was raised in six minutes to 9th speed, showing 315 pounds, piezometer reading on the 49th story indicating 55 pounds. No suction recorded.

Test No. 3—Cellar to 73rd story tank. Started at 190 pounds, Pressure built up in five minutes to 10th speed, 388 pounds showing 20 pounds on piezometer. Speed then advanced to

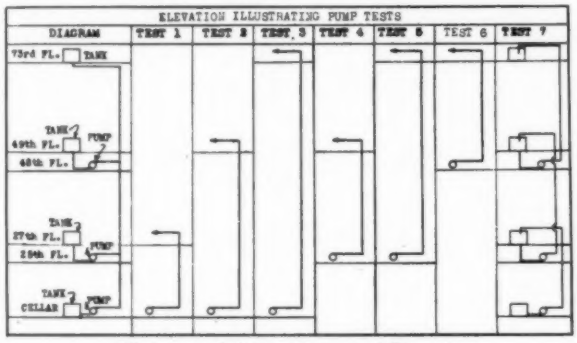


Diagram of Arrangement of Pumps

12th notch in two minutes, giving 422 pounds and showing 55 pounds on piezometer at 73rd story tank. No suction indicated Cellar pump to 73rd story is not a legal requirement under the stand pipe rules of the New York Fire Department but the test was made to ascertain if that feat could be accomplished.

Test No. 4—25th story pump to 49th story tank. Started at 137 pounds giving 15 pounds at piezometer. Pump raised to 5th speed in four minutes, giving 220 pounds, with an indicated 70 pounds at the 49th story. Suction ten pounds.

Test No. 5—25th story pump to 73rd story tank. Started at 255 pounds, then 5th speed showed 10 pounds at piezometer, pressure then raised in two minutes to 9th speed, giving 305 pounds at the pump and 60 pounds at the piezometer. Suction 10 pounds.

Test No. 6—48th story pump to 73rd story tank. Started with 115 pounds and 6 pounds suction. Pressure raised to 5th speed within 3½ minutes, giving 210 pounds and indicating 70 pounds at the piezometer. Suction 6 pounds.

Test No. 7—Relaying water by using all pumps simultaneously and boosting supply to 73rd story tank. Cellar pump was started at 1st speed. Within two minutes pressure at pump indicated 152 pounds at 5th speed and discharged through an 8-inch emergency fill-line (by-pass) into the 27th story tank. The 25th story pump was started at 1st speed discharging into the 49th story tank 141 pounds, showing 10 pounds suction at 5th speed in four minutes. The 48th story pump was started at 1st speed with 6 pounds suction and within four minutes at 5th speed showed 210 pounds on the pump and 70 pounds pressure on the 73rd story piezometer.

A full load endurance test was made of motors and pumps through a 4-inch test line. For two hours, the cellar pump was operated from a minimum of 95 pounds to as high as 260 pounds. For one hour and a half the 25th story pump was operated from as low as 95 pounds to as high as 250 pounds. For one hour and five minutes the 48th story pump was operated from as low as 70 pounds to as high as 200 pounds. The piezometer was not used during the endurance test.

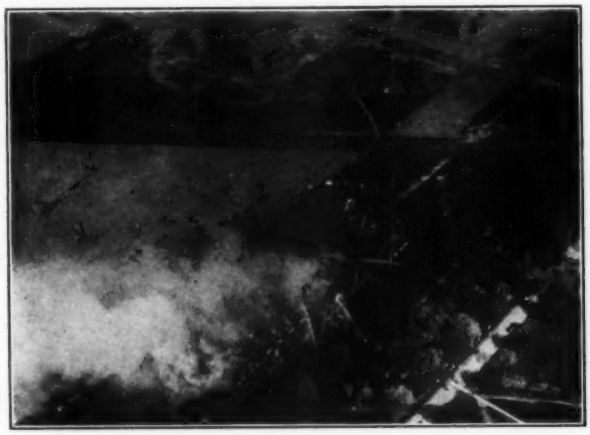
(*Continued on page* 507)

FIREBUG BLAMED FOR BLAZE IN ISLIP ASYLUM FOR INSANE

Fire Started in Attic Which Was Free From Material or Occupancy — Apparatus From Nearby Villages Responded to Alarms

ELEVEN firemen and five other persons were injured while fighting a blaze that started in the State Hospital for the Insane at Islip, N. Y., and caused $250,000 damage. Since the fire started in an attic that was free from material of any kind, it is believed that the blaze was of incendiary origin. Flames were discovered about 2 p.m., and blazed for three hours before they were put under control.

Fourteen fire companies from nearby villages and towns fought the fire in the three-story dormitory. There were about six thousand patients in the hospital and most of them quietly watched the fire-fighters at their work. Twenty attendants, some of them women, were trapped on upper floors of the dormitory while others trapped on the third floor escaped by leaping into nets stretched by firemen. The persons caught remained orderly



Air View of the Large Hospital Dormitory on Fire at Islip

and awaited their turn to make the twenty-five-foot jump into the net held by firemen.

The calls for help brought apparatus from Central Islip, Islip Terrace, East Islip, Islip and Bay Shore. Later apparatus came from Patchogue, Sayville, West Sayville and Babylon. Most of the apparatus within a radius of about fifteen miles rushed to give any possible assistance.

The injured persons were taken into the treatment ward of the hospital.

Dr. G. A. Smith, superintendent of the institution, said that while he believed the fire to be of incendiary origin, he had no suspicion against any attendant or patient. He believes the work is of some person outside the hospital. The blaze started while firemen were fighting a brush fire some distance from the hospital, so that the incendiary could have ample time to get under way before the firemen responded.

The destroyed building was of brick construction and was considered virtually fireproof. The institution had suffered from other fires, one early in the morning of April 13 when ninety-two inmates were driven from their beds. Other fires occurred last November, and about a year ago a fire was discovered in a ward. Oily rags and waste have been discovered from time to time in spots that would have been dangerous had the material been ignited.

Firebug Caught in Illinois

A widespread series of incendiary fires which have baffled the state fire marshal and authorities in Decatur and Danville for months has been solved by the confession and conviction at Decatur of Roy Steward, age 33 of Brazil, Ind., according to an announcement by State Fire Marshal S. L. Legreid. Steward confessed to ten fires in Decatur and seven in Danville. After his conviction he also admitted a number of fires in Brazil, Indiana, one of them in a rooming house.

According to Mr. Legreid the confession of Steward represents the most extensive operations of an individual firebug in the history of the department and he feels that his apprehension is very important. Steward was given a sentence of one to ten years at the Chester Penitentiary on a plea of guilty to setting fire to a warehouse in Decatur.

He began his operations September 29, 1929, by setting fire to the Pentecostal Church Mission at Decatur. The following day he set two other fires and on October 7 set another fire in the church mission. The last fire to which he confessed in Decatur was at the Alexander Lumber Company on May 10. His operations in Danville began February 7 and extended to May 3 of this year.

The Fire Marshal Department has been on the trail of Steward for three months. He was picked up in Danville about two weeks ago by Deputy State Fire Marshal T. E. Abrams and brought to Decatur, where he confessed to Mr. Abrams and local officials.

Fire Set by Boy Spreads to Many Houses

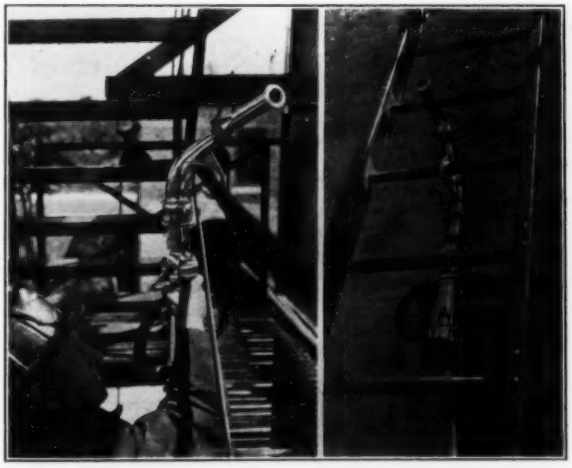
On the night of April 28 a fire set by a ten-year old boy, who later confessed to the police, destroyed the plant of the Caspar Ranger lumber yard in Holyoke, Mass., and spread to four brick dwellings which were burned. Fires started in the Skinner Mill and the factory of the Farr Alpaca Company where damage of $500,000 was caused by water to a large stock of wool. Automatic sprinklers were of material assistance in checking the flames in these two large buildings. Flying embers ignited the roof of the Peoples' Savings Bank and the tower of the Holyoke City Hall where the flames were extinguished with difficulty. The lumber yard, woodworking plant, and 3-story brick office building of the Caspar-Ranger Company were destroyed. Six loaded box cars on a siding were also lost. The total damage was placed at $1,250,000.

Chief Patrick J. Hurley sounded a general alarm and called aid from Springfield, Northampton, Chicopee, West Springfield, and Westfield. The flames were fanned by a strong southeasterly wind. Flying sparks created a hazard and ignited the tops of a number of parked motor cars. A water curtain from the roof of the Farr Alpaca plant helped in the fight to save that structure. The tower of the City Hall which took fire was 256 feet high and three blocks away from the main blaze. Three companies of the National Guard were called out by request of Mayor William T. Dillon and City Marshal James E. Bartley.

HARRY BELKNAP.

Soulé Secretary of Eastern Association

F. E. Soulé has been elected secretary of the Eastern Association of Fire Chiefs to fill the vacancy caused by the death of the late T. Howell Johnson, Bloomfield, N. J. All payment of dues and communications should be addressed to Mr. Soulé at Coatesville, Pa.



Two Views of the Improved Gilson Nozzle

Improvements have been made in the design of the Gilson nozzle which is provided with a hook so that it can be worked from ladders or any kind of supporting member. In this way the men are not called upon to bear the full load of nozzle and hose line while the stream may be directed from difficult points. The nozzle is so designed as to provide streams of from ¾ to 1¾ inches diameter.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousand.

Week Ending May 30

TANNERSVILLE, PA.—Pocono Inn destroyed	125
HIGHLAND PARK, ILL.—Apt. and business bldg. damaged	65
GREENWICH, CONN.—Bldg. of Rosemary Hall School	25
RIVERSIDE, TEX.—Whse. of Ralston Purina Mills damaged	40
PERSHING, IOWA—United Mine Workers Hall destroyed	25
ESTHERVILLE, IOWA—Graaf Bldg. destroyed	80
COVINGTON, PA.—High School bldg. destroyed	70
RINGLING, MONT.—Business and residential property	60
SOUTHAMPTON, L. I., N. Y.—Residence of Hamilton Tyng	200
MILWAUKEE, WIS.—Apartment house property damaged	25
TWIN BRIDGES, MONT.—Grain elevator of Farmers Elev. Co.	25
DIGHTON, MASS.—Residential property of J. W. Paul	25
RIPON, WIS.—Oil tanks of Wadhams Oil Co.	150
PRESTON, IDAHO.—Plant of Preston Milling Co.	50
EMO, ONT.—Garage and five stores destroyed	200
BRADDOCK, PA.—Apartment bldg., 414 John St.	35
BONANZA, OREG.—Business property damaged	70
EUREKA, CAL.—W. P. Fuller store, adj. property	150
ANGOLA, IND.—Main bldg., Tri-State College	65
HARTFORD, OHIO—Home of Carson Stewart destroyed	25
LOS ANGELES, CAL.—Chapman Park Hotel damaged	80
EASTON, MD.—Whse. property of Geo. Wilson destroyed	25
SHAMOKIN, PA.—Business property of Hymov & Ratner	65
BOUND BROOK, N. J.—Home of Mrs. C. C. Willis, Mountain Rd.	35

Week Ending June 6

LEONA, OREG.—Lumber mill of Roy Beebe destroyed	300
GILROY, CAL.—Whse. of Crowe Nurseries destroyed	150
MITCHEL FIELD, L. I., N. Y.—Main Garage and adj. bldgs.	80
SALT LAKE CITY, UTAH—Business block damaged	150
NIAGARA FALLS, N. Y.—Lehigh Hotel bldg. destroyed	25
PHILO, OHIO—Philo Hotel, adj. property	60
MEDINA, N. Y.—Benjamin Altman block damaged	30
OKLAHOMA CITY, OKLA.—The Coliseum auditorium destroyed	400
ST. FLORENCE, QUE.—Thibault Hotel and adj. property	65
BURNS, OREG.—Grand Hotel and adj. property	40
WATTS FLATS, N. Y.—Plant of Toddy Mfg. Co.	80
CEDAR FALLS, IOWA—Regent Theatre damaged	35
SCANDIA, MINN.—Elim Lutheran Church destroyed	40
SCOBEYVILLE, N. J.—Farm property of Norman Sickles	25
LACOMBE, ALTA.—Main bldg. of Canadian Junior College	70
CENTRAL ISLIP, N. Y.—Dormitory of State Hospital	70
CHATTANOOGA, TENN.—Tannery of Robert Scholze	70
HAVRE, MONT—Whse. of H. E. Clack Co.	65
WALPOLE, N. H.—Property of A. H. Chickering, River Rd.	25
ANNISTON, ALA.—Plant of Central Foundry Co. destroyed	30
SPRINGFIELD, S. D.—Former home of G. W. Snow	25
TOLEDO, OHIO—East Side Presbyterian Church destroyed	25
ELIZABETH CITY, N. C.—Cohoon tin shop, adj. property	25
SAN FRANCISCO, CAL.—Pope Talbot Lumber Co. yard	45
LOUISVILLE, KY.—Plant of Acme Paper Storage Co.	25
WALKERVILLE, ONT.—Dominion Specialties Co. plant, adj. bldgs.	250
STURGIS, MISS.—Mill property of H. W. Brooks & Sons	25
MONTICELLO, IND.—Ideal Beach Casino destroyed	25
WOLCOTT, N. Y.—Post office and adj. property	250
GRANTS, N. MEX.—Property of Santa Fe Railway	45
RENICK, MO.—Main business district damaged	45
HAVERHILL, MASS.—Ice houses of Merrimac Icing Co.	25
HAMILTON, ONT.—Lumber yard of Consumers Lumber Co.	200
QUINCY, MASS.—Sheds of Alphonse Pagagni, adj. property	25

"Metropolitan Chiefs' Night" Observed

A dinner at the Hotel Arlington, Boston, Mass., on May 21, which was attended by nearly one hundred members and guests, was arranged to observe the annual Metropolitan Chiefs' Night of the Box 52 Association.

At the head table were seated P. Hildreth Parker, president; Chief Daniel F. Sennott, Boston; Ex-Mayor James C. Dunn and Chief A. H. Koltonski, Rutland, Vt.; Chief Selden R. Allen, Brookline, president, Fire Chiefs' Club of Massachusetts; and Deputy Superintendent Thomas F. Goode, Boston Police Department.

At the close of the dinner the president paid a tribute to Chief Sennott for his long years of service and he called attention to the fact that Chief Sennott was attending for the last time in his official capacity as head of his department. Chief Sennott, in replying, thanked the members of the association for their support during his term of service.

Following the dinner, moving pictures were shown of visits to China, Korea, Japan and the Hawaiian Islands by George F. Cobb, traffic manager of the New England Fire Chiefs' Association, and the International Association of Fire Chiefs. The pictures were taken by Mr. Cobb during a trip around the world. He showed the fire departments at rest and at work.

Moving pictures of the recent Nashua, N. H., conflagration will be shown at the June meeting.

Among the invited guests were Chief Daniel F. Sennott, Boston; Chief Selden R. Allen, Brookline, President Fire Chiefs' Club of Massachusetts; Chief William C. Mahoney, Peabody, Past President Massachusetts State Firemens' Association; Chief Fred A. Clark, Attleboro; Chief Thomas A. Qualey, Medford; Chief Frank E. Tracy, Woburn; Chief Orville O. Ordway, Reading; Chief Joseph A. Cribby, Somerville; Chief David H. De Courcy, Winchester; Chief James M. Casey, Cambridge; Chief George L. Johnson, Waltham; Chief John J. Hannigan, Norwood; Chief Henry J. Harrigan, Dedham; Chief J. Ralph Bacon, Weymouth; Chief Frank Charlesworth, Providence, R. I., President Fire Chiefs' Club of Rhode Island; Chief Thomas H. Slaman, Wellesley; Chief Clarence W. Randlett, Newton; Chief T. Robert Quinlan, Needham; Chief William H. Hill, Belmont; Chief A. H. Koltonski, Rutland, Vt.; Ex-Mayor James C. Dunn, Rutland, Vt.; Assistant Chief Henry A. Fox, Boston; Deputy Chief Albert J. Caulfield, in charge of Fire Prevention Division, Boston; Supt. of Fire Alarm, George L. Fickett, Boston; Walter L. Wedger, Belmont, former State Chemist and Expert in Explosives; Lieut. Thomas M. Nary, Engine 24, Boston; Joseph J. Brennan, Aid to Chief, Belmont; Battalion Chief Louis A. Cole, Chief Mechanician, Providence, R. I.; Lieut. Frank G. Eldridge, Providence, R. I.; Capt. Daniel J. McCarthy, Belmont; Lieut. F. H. Williams, Milton; Capt. Timothy McCarthy, Weymouth; Charles A. MacKinnon, Fire Department, Bridgewater; Deputy Edward E. Williamson, Supt. of Maintenance, Boston; Captain James J. Harrington, Boston; Captain Lorenzo D. Merrill, Boston, and Deputy Supt. Thomas F. Goode, Boston Police Department.

Chief John F. Donovan, of Meriden, Dead

Chief John F. Donovan of Meriden, Conn., well known in the East, died suddenly on May 27, after an illness of two days. Chief Donovan suffered a heart attack at his home, and his condition became worse. He gradually grew weaker until death intervened two day's later.

Chief Donovan was a member of the Meriden Fire Department for the past forty-eight years, the last eighteen of which he has been its head. The deceased chief was born on January 14, 1861, in a house that still stands next door to the present Meriden fire headquarters. He had been identified with fire fighting practically all of his life.

He joined the old Bixbie Hose Company on December 1, 1882. After ten years of service with that company as a hoseman his merits as a fire fighter were recognized and he was made a captain. In 1907 he was appointed permanent captain and on April 30, 1912, after thirty years of service in the department he was appointed permanent chief.

During his long term of service as a fireman, Chief Donovan has been a member of the Connecticut State Firemen's Association, The Fire Chief's Club of Connecticut, the New England Fire Chief's Association and the International Association of Fire Engineers.

In 1913, Chief Donovan was one of a committee which was instrumental in having Bill No. 108 passed, which made the positions of firemen in Connecticut permanent, taking them out of politics.

Besides his wife, Chief Donovan leaves two daughters Mrs. Margaret Arnold and Mrs. Mary Slater; two sons, Daniel and James Donovan and a sister, Miss Hannah Donovan. The funeral was held on May 30 with services in St. Rose's R. C. Church and interment in Sacred Heart Cemetery.

The entire off-shift platoon of the Meriden Fire Department escorted the remains of Chief Donovan to the cemetery. Fire Department officials from several cities and towns in Connecticut attended the funeral.

THOMAS F. MAGNER.

Firemen Are Now First Aid Workers to Scared Youngsters

Two boys of Buffalo, N. Y., perhaps seeking a little excitement in their otherwise normal lives, climbed to the top of a 150-foot water tower. There they remained for three days and two nights without food or drink because they were afraid to try the descent. The youngsters were finally rescued by members of the fire department.

CHIEF CHARLES E. FORTIN
State Vice-President
Lewiston, Me.

CHIEF JOHN W. O'HEARN
Secretary-Treasurer
Watertown, Mass.

CHIEF SELDEN R. ALLEN
First Vice-President
Brookline, Mass.

CHIEF VICTOR H. VEIT
State Vice-President
Stamford, Conn.

CHIEF CARL V. STOCKWELL
State Vice-President
Burlington, Vt.

CHIEF LAWRENCE E. REIF
President
New Haven, Conn.

CHIEF CHAS. J. McCARTHY
State Vice-President
Worcester, Mass.

CHIEF O. T. SANBORN
Ex-President
Portland, Me.

CHIEF J. E. SMITH
Nashua, N. H.

CHIEF D. B. TIERNEY
Arlington, Mass.

CHIEF C. R. RANDLETT
Newton, Mass.

OFFICERS AND MEMBERS NEW ENGLAND ASSOCIATION OF FIRE CHIEFS

FIRE DETECTION SYSTEM PLACED IN SAN FRANCISCO DRILL TOWER

Signal Sending Equipment Governed by Thermopile of Seven Couples—Installations Found Satisfactory

By CHARLES W. GEIGER

IN order that all members of the San Francisco Fire Department may become thoroughly familiar with the operation of fire detection service (Reichel system) a local company has cooperated with the San Francisco Fire Department by installing a complete model fire detection system in the fire drill tower. This system is an automatic electrical fire alarm system which automatically detects a fire at its start and transmits a signal to the municipal fire department. There are a number of these systems now in operation in San Francisco therefore the model installation in the fire drill tower will be used in demonstrating its operation to the members of the fire department during the regular course of instructions given in all equipment pertaining to the fire department at the fire drill tower. It will also be used in making demonstrations during the regular San Francisco college course.

Contact Relay

The essential unit of this system is the device that is installed on the ceiling (approximately one to each 400 square feet or less) throughout the building, which detects the fire and is called a detector. The arrows at "A" "A" show the two detectors that have been installed in the demonstration model in the fire drill tower. This detector is an electric thermopile, consisting of seven couples (one stud of the couple being bismuth and the other stud antimony). One end of these couples is exposed and the other end is imbedded in a porcelain base so that the heated air cannot come in direct contact with the imbedded ends. When a fire occurs, the heat rising to the ceiling comes in contact with the exposed ends, heating them, while the imbedded ends are not affected. In this manner the two ends of the couples are at a different temperature thereby setting up a flow of electricity within itself.

The detectors are connected together in a series circuit, by wires which in turn are connected to a contact relay located in the main control unit and shown by arrow "B". The normal position of the needle of the contact relay is on the left hand side of the dial, but a supervising current from a battery is introduced into this circuit with enough current flowing to hold the needle in the center position on the dial. (A close up of this dial and needle is shown in photo No. 2.) Should a wire break, a battery become weak, or anything happen in the circuit so that this supervisory current will not flow, the needle will then deflect to the left hand side of the scale, making a contact which causes a trouble signal to be transmitted to the Municipal fire alarm central station. Should a fire occur, the heat from it would create a generation within the detector, causing the needle to deflect to the right hand side of the dial. A contact will be made when the needle deflects to the extreme right which will trip relays and cause a fire signal to be transmitted to the municipal fire alarm central station. The fire alarm operator will not send the fire department on receiving a trouble signal but will notify the manufacturer's office in San Francisco, and this company will send a trouble man. After restoring the system to a normal operating condition, the "trouble man" will then report to the municipal fire alarm central station as a matter of record.

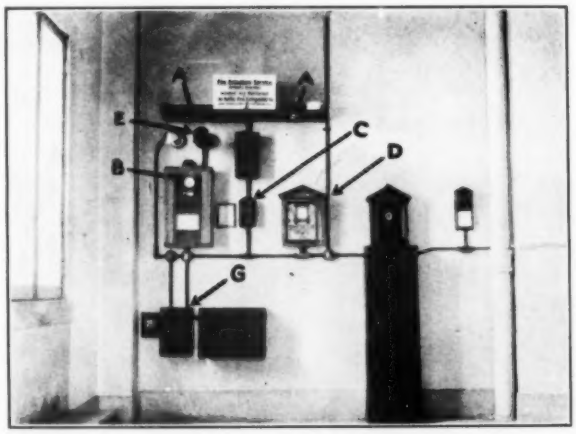
In order to demonstrate just how a fire in a building effects the detectors, a copper cow bell shaped device housing a Majestic heating element has been provided. This heating device by means of an extension cord is connected to the regular 110 volt outlet of the fire drill tower. Then the man in charge of the demonstration holds the bell shaped heating device under one of the detectors, until the heat causes the detector to act just as it would if a fire occurred in a building equipped with the fire detection system. The fire alarm is received and recorded on the fire department tape register installed on the same floor of the fire drill tower.

The model installed in the fire drill tower is equipped with an instrument cabinet containing but one contact relay as shown at "B". However in a building where there are several floors or areas necessitating a circuit of more than fifty detectors to each floor or area, there will have to be more than one contact relay. These contact relays will be grouped together in one control unit or instrument cabinet, and each one is marked in such a manner as to designate the particular area of floor which each circuit covers. This control unit is usually located inside of the building at a point where it can be seen from the street through a door or window. A small buzzer is located on the top of the control unit or instrument cabinet to notify the subscriber that something has caused a portion of the fire alarm system to become inoperative. The subscriber can then call the company notifying them of the existing condition. This is a check on the fire department central station operators and assures prompt service.

On each circuit there is one contact relay. Also there is one manually operated fire alarm box connected to each circuit, as shown at "C". This manual box can be pulled to call the fire department making the Fire Detection Service a manual as well as an automatic fire alarm system. This iron manual box is of the usual type of break glass cover over a pull handle, and is usually located near points of exit or entrance to a plant equipped with this system.

The system within the building is connected to the municipal fire alarm lines by mechanical means within the Master Street Box (shown at "D"), usually located on a pole or pedestal in front of the building. This street box is of the type used by municipalities on their own fire alarm system, being a non-interfering, successive type of box. Thus this street box brings added protection to the vicinity for it brings another fire alarm box to the neighborhood which can be pulled to call the fire department for a fire in that vicinity. This box can be pulled without disturbing the installation within the building, thereby leaving the system within the building ready to function in case of a fire existing therein.

The arrow at "E" shows the local alarm horn or siren which is usually located on the outside of the building at a point directly over the opening (door or window) from which the control unit can be seen. This horn will operate whenever the system inside of the building has operated for fire. The horn will not blow when the street box on the outside of the building has been pulled. The purpose of this horn is to attract the firemen to the point where the control unit can be seen as well as notifying the occupants of the existing fire in their building. A break glass horn switch is located on the side of the control unit to allow



Fire Detection Service System Installed in San Francisco Drill Tower

the firemen to stop the horn from sounding after their arrival.

When the property is so large or occupational noise intense then additional horns or gongs are installed.

A storage battery G is used to furnish the electrical energy to keep the main wires, relays, etc. under constant electrical test or supervision and to operate the local alarms and devices used to trip the master street transmitter.

A connection is made to the 110-volt main light or power switch to supply the small current necessary to charge the storage batteries. This connection or tap on the 110 volt power system is made through a separate switch and fuse contained in a red steel box located close to the main light or power switch, with wires in separate steel conduit from this box to the larger steel cabinet containing the storage batteries and battery charging device.

The storage battery has sufficient capacity to operate the system for seven days with the 110-volt power disconnected. Temporary stopping then starting of the 110-volt current does not affect the automatic charging device used.

Wires from the instrument cabinet, or control unit, to the outside of the building, to the storage battery and to the local alarm signal are installed in separate steel conduits.

A casual inspection of the dials of the circuit relays in the Control Cabinet, will disclose the condition of each circuit and circuit battery. However, the storage batteries are examined and tested and a general inspection given all parts of the system.

Also, the inspectors go over the entire property to note any conditions such as goods or materials piled too close to detectors, obstructions in front of manual boxes, etc. and to learn whether any building alterations, or erection of new partitions or walls has shut off protection or introduced new confined area that would not properly be protected by the system.

Since 1913 (the year in which the first fire detection system was installed on the Pacific coast) the City Fire Departments have been notified of fire on the subscriber's property by this device, so quickly that it enabled response in 92 per cent of fires in time to extinguish them with first aid devices. In only 8 per cent of fires has any hose water been turned into any building using this service.

Former Firemen Returning With Byrd

On the "City of New York" which is bringing part of the Byrd Antarctic Expedition Back to New York, is Esmonde M. O'Brien, formerly a marine engineer on the fireboat "New Yorker" of the New York Fire Department.

Esmonde M. O'Brien

He won a commission with the expedition, but since the trip was for more than one year, he was forced to resign from the fire-boat service, for it was illegal to receive more than one year's leave from the department.

Mr. O'Brien has been a seafaring man all his life. He is the only member of any fire department with the Antarctic Expedition. O'Brien's father is fire telegraph dispatcher.

Starts With False Alarms

After a fight waged by Chief A. H. Lankford for the past sixteen years, Glendale, Cal., now has a fire alarm system that was installed at a cost of $118,000. As soon as the system was placed in service, three false alarms prompted by some inquisitive boys were turned in. Boxes are so located that there is one box for every three hundred feet in the business section and one for every one thousand feet in the residential area.

Beverly Hills, Cal., Buys Aerial Ladder—A new 85-foot aerial ladder has been delivered to Beverly Hills, Cal.

Collinsville, Ill., May Buy Apparatus—Collinsville, Ill., is considering the purchase of a 500-gallon pumper.

N. Adams, Mass., Buys Pumper—North Adams, Mass., has purchased a Seagrave 600-gallon pumper.

SANTA ANA, CAL., ESTABLISHES RESCUE AND SALVAGE UNIT

Body Constructed on Old Fire Department Chassis—Men Assigned to Company Well Trained in Emergency First Aid Work

A STUDY of local conditions in Santa Ana, Cal., convinced Chief John Luxembourger that the community of 40,000 persons could be better served in cases of an emergency if the fire department had a crew of specially trained men and the necessary equipment. Disasters in schools, theatres or hospitals are not impossible and would place the city in an extremely awkward and embarrassing position if preparations were not made to handle such a condition.

Chief John Luxembourger

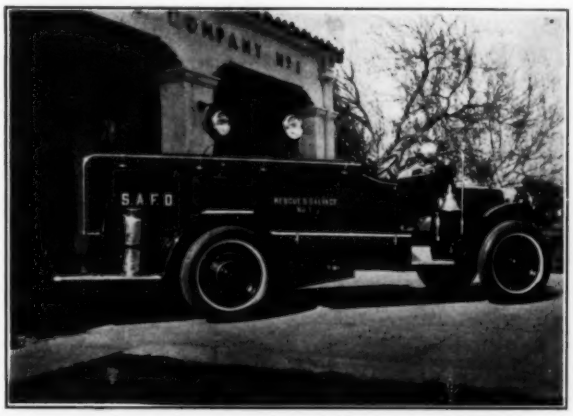
Chief Luxembourger presented his ideas to the city council, and of a scheme to remodel a truck used as a squad wagon to serve as a rescue unit. The actual work was done by volunteers of the department working during their offshift hours. When the truck was completed and ready for service, Rescue & Salvage Company No. 1 was created and installed in the quarters of Engine House No. 1. Two of the most capable officers in first aid practice were assigned as ranking officers of the new company, with the Chief in direct supervision.

Additional equipment was needed to insure proper results. Members of the City Council and the Purchasing Agent approved the move and the following equipment is now carried:

18 salvage covers	2 2½-gal. Babcocks
100 ft. ½-inch rope	2 Grether hand lanterns
100 ft. 1-inch rope	2 qt. carbon tetrachloride guns
1 pair insulated bolt cutters	3 Burrell "All Service" masks
1 8-lb. sledge	1 Gibbs breathing apparatus
2 fire axes	1 roll tar paper
2 sacks sawdust	4 prs. fog-proof gogles
1 crowbar	2 mops
2 sacks fine sand	2 brooms
1 Detroit door opener	1 12-foot pike pole
1 Army stretcher	2 flood lights (mounted)
1 rear spotlight	1 10-inch S. & M. (ruby lens)
1 10-inch locomotive bell	1 B. & M. siren
6 bottles oxygen	2 bottles Carbogen
1 complete first aid cabinet	2 first aid kits (portable)
1 surgical kit	6 surgical aprons
6 Torridaire hot pads	2 wool blankets
2 sterilized sheets	Necessary bandages and instruments

All of this is carried on a 1923 Reo Speed-Wagon chassis. The cost of remodeling was about $700, including materials and labor.

With the equipment carried and operated by capable mem-

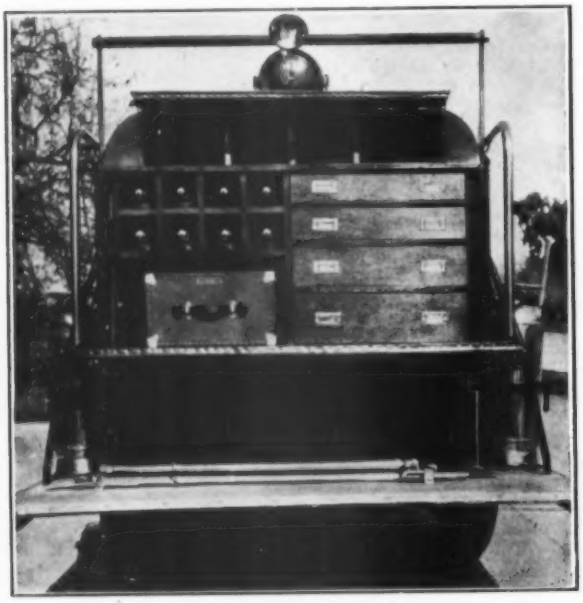


Rescue Car in Front of Fire Station

bers of the department, such cases as serious burns, cuts, fractures, bleeding and occasions where the administration of oxygen is necessary and many other emergency cases can be handled in a way that will insure a large measure of success. Entering smoke or fume-filled enclosures such as basements, breaking into and through barred passageways and reaching difficult positions for the purpose of rescuing endangered persons also comes under the duties of the rescue crew. This crew has been instrumental in salvaging stocks in commercial buildings, furnishings in the private dwelling and other places where smoke, fire or water damage would result in a loss.

Chief Luxembourger elaborated on the value and purpose of the rescue service during a recent demonstration by the Fire Department before the members of the Elks Club.

"It has been our one and greatest desire to offer and provide for the citizens of Santa Ana a Fire Department that could be called on a moment's notice, whether day or night,



Rear View of Rescue Unit

to render prompt and efficient service and assistance in time of need. Educating the public to the needs of the department in the way of additional equipment is a slow process, however; it is much more difficult to bring to the minds of the people the fact that we are now equipped to render first aid and rescue service by men who are thoroughly capable of handling any situation which may arise. Although we are not trying to take the place of a physician, we do know that there are times when a doctor is not immediately available, especially in cases of extreme emergency. It is for such occasions that we offer the services of the department. It is our custom to call a doctor immediately upon our arrival if one has not been previously summoned.

"I have every confidence in the capability of the men detailed to this work, as they were appointed to the positions because of their previous preparation in this line. These men have been thoroughly trained in the latest methods of first aid and uses of the various pieces of equipment. The sooner the public recognizes the fact that we are at its service, regardless of time or conditions, the quicker we will be able to render the aid that has heretofore been unavailable.

"We are at the service of the citizens twenty-four hours a day and take pride in rendering relief to anyone who meets with misfortune in the way of an accident of this nature."

The Chief has extended an invitation to any and all citizens to visit the Fire Station where the Rescue & Salvage Company is located, assuring them that a thorough explanation will be made of all phases of the rescue work.

Plans Being Drawn for Erie, Pa., Headquarters—Plans are being rushed on the new fire department headquarters to be erected in Erie, Pa. The last fire house built in the city was completed in 1905. It is believed the headquarters station will cost $100,000.

Six-County Firemen Planning Convention—Plans are being completed for the convention of the Six-County Firemen's Association to be held in Danville, Pa. The counties participating are Lackawanna, Luzerne, Northumberland, Schuylkill, Columbia and Montour.

N. Y. Firemen Try for Eight-Hour Day

Another step to better working conditions for the firemen of New York City has been provided in a bill drawn up for the establishment of three platoons. The bill reads as follows:

"Section 1—After June first, nineteen hundred and thirty-one, no member of the uniformed force of the Fire Department, except the chief of the department, shall be required to be on duty for more than eight hours a day in any one period of twenty-four hours; and all such members, subject to such exception, shall be entitled to at least one day of rest in every calendar week. The head of such department shall divide the members of such uniformed force into such divisions and assign them to such tours of duty that the purposes of this local law shall be accomplished. But in the event of a conflagration or other similar emergency, or for the purpose of exchanging tours of duty, members of such force may be continued on duty for such hours and in such numbers as may be necessary therefor.

"Section 2—The provisions of the Greater New York Charter and of chapter two hundred and twenty-six of the laws of nineteen hundred and twenty-two, in so far as such provisions are inconsistent with this local law, are hereby superseded.

"Section 3—This local law shall take effect immediately."

All ranks of the department are included in the bill with the exception of the head of the department. In 1927 an attempt was made to pass a bill similar to the one described with the exception that the Police Department was also included. This time the bill was drawn up solely for the interest of the Fire Department. If approved, the measure will become effective June 1931 to allow the city to train the additional men that would be required by the three-platoon system.

Sponsors of the plan expect to prove to the city that the duty that the men of the department perform entitle them to shorter hours of service. At present the men are putting in eighty-four hours a week, and under the suggested plan it would be fifty-six hours.

Chief Evans Honored by His Men

John M. Evans, chief of the New Orleans Fire Department, was presented with a Morris chair and smoking stand by members of the department in appreciation of his many acts of kindness and in honor of his election for the third time as head of the department. The presentation was made by Mayor T. S. Walmsley who declared that the Chief's thoughts, other than devotion to duty, have always been for the men.

In replying to the kind things said, Chief Evans stated:

"If I have ever done anything for you, I am pleased. If I have ever had to discipline you for anything, I am sorry, for it is not my wish to be hard with you. I cannot find words to express my appreciation to you for the gift."

About one hundred persons were present. The firemen's band met the chief and mayor at the front of the station and escorted them into the court yard where the ceremonies were held. A movie was shown of the present administration, and light refreshments were served.

Snead Heads Kansas Chiefs Association

At the annual meeting of the Kansas Fire Chiefs' Association held in Salina, Kans., W. W. Snead, Chief of the fire department of the Atchison, Topeka, and Santa Fe railroad in Topeka was elected president to succeed J. K. Bennett, assistant chief of Hutchison. Other officers elected were Martin Keeler, chief of Swift & Co., Kansas City, Kans., vice-president, and J. D. Doyle, Wamego, re-elected secretary.

Past-President George T. Mohrbacker of Marysville responded to the welcome made by Mayor Guy T. Helvering of Salina.

One of the interesting features of the morning program was the short talk given by J. E. Taplin, chief of the Blackwell, Okla., fire department, on the short course and education for firemen. He contrasted the old days when a fireman was supposed to have only brawn and a great thirst with the rapidly changing idea which is that firemen should be educated men. Mr. Taplin predicted that within a few years cities will have university graduates on their fire departments. The fire school idea is only five years old, he said, and already institutions of learning are offering courses as they did for every other profession known.

Coatesville, Pa., May End Outside Service—Communities adjoining Coatesville, Pa., may be without fire protection service unless they contribute to the Coatesville department. It has been the practice for the department to respond to all alarms within a radius of five or six miles, but when the council learned that this service was placing a large burden on the local taxpayers, contributions were asked from nearby communities that have enjoyed local fire protection.

Private Fire Brigade Efficiency

(*Continued from page* 488)

extinguishers to use and their location, and will know the number of sections of hose necessary in a line to reach certain locations throughout their district.

Evening and night drills should be arranged weekly. The night drills are especially helpful to the firemen as the fighting of fires at night is often very hazardous unless the men are acquainted with the buildings and their existing conditions.

Firemen should be trained in the method of tying knots and their uses, such as axe hitch, chemical hitch, pike pole hitch, ladder hitches to hoist short and long ladders to roofs of buildings, and hose hitches to secure hose lines to roofs.

Rescue Work Important Branch

Rescue work is also an important branch of a fireman's work. He should be instructed and trained in the proper method of entering burning buildings, know how to improvise a gas mask from a piece of cloth, know the necessity of the oxygen helmet when working at certain chemical fires, and how he may be able to enter a burning room or building if his clothes has been wet or with a hose stream being played on him continually.

He should know the different carrys and drags, that is, he should be able to lift an unconscious person on his back under all conditions, and should the conditions exist that he is unable to carry a person to the outside he should be able to use the fireman's drag which can be completed to a carry when conditions permit. He should be able to carry a person down a ladder safely.

He should know the different hitches to use on body to be lowered from buildings with ropes, he should be trained in the use of the life belt, how to rescue a person if he can get on roof or floor above person to be rescued and secure rope and slide rope to floor where person is to be rescued and rearrange rope on belt for the added weight and slide to the ground. He should know the proper method of holding and using the life net.

Fireman Should be Familiar with Layout of Buildings

He should familiarize himself with the different buildings throughout the plant and to arrange in his own mind how he would rescue employees should they be trapped within them by fire. A fireman well trained in rescue work should never have to resort to the method employed by the Irishman, who, when asked how he would get a three hundred pound lady down the ladder from the fourth floor. answered, make two trips.

Firemen should be trained to be efficient inspectors, for if the fire equipment is kept in good condition and the fire hazards removed it will help reduce the fire loss in the industrial plants.

All fire equipment should be inspected regularly to see that it is in good working condition, that it is not obstructed, or that all soda and acid or foam type chemicals and wet sprinklers are located in buildings where the temperature does not range below 40 degrees.

Should Inspect all Equipment

They should inspect all outside hose houses to see that all equipment is in place and in good working order and to see that building is in good condition and that roof does not leak. They should inspect all sprinkler risers and indicator valves and see that valves are open at all times, and in case of dry systems to see that all lines are drained to main riser before cold weather, to see that the proper degree head is installed in rooms of different temperatures, see that heads have proper clearance from ceiling or roof and that material has not been piled too close under the heads to obstruct the proper distribution of water.

Sprinkler heads should be inspected to see if strut or fuseable link is corroded, and when painting is being done in sprinkled buildings to see that heads are properly covered and that covers are removed immediately after painting is done. See that all fire doors are not obstructed and are in proper working order and to see that they properly close openings in fire walls. Inspect fire ladders to see that they are not obstructed, properly supported to wall, and in good condition.

All fire line valve pits should be kept clear at all times and valves operated to be sure that they are in good working order; alarm boxes not obstructed, and red lights properly marking location of boxes at night. Hydrants should be inspected to see that they are not obstructed, in good working order, not leaking, and in cold weather to see that they are properly drained to prevent freezing.

A fireman on his inspection should make himself familiar with all gas control valves, and know what valves control the gas in each department, he should also be familiar with the location of all electric control switches in each department. He should be familiar with every nook and corner of the plant, as this will aid him in case of fire, as he then knows the exact location of all rooms, compartments, dividing walls, and the kind of material that is stored in the different rooms; this gives him a better knowledge of how to go about to ventilate and in what direction to fight a fire. This knowledge also helps to reduce the water damage when fighting fires with large streams. He should study the construction of the different buildings, what the construction of the different roofs are and their coverings and the possible fire hazards of each.

Heating Appliances Should be Carefully Watched

Firemen should inspect heating appliances such as steam radiators and lines, or stoves to see that there is no combustible material in contact with them, or that steam lines are not in contact with wood and are properly supported near wood construction. See that oil drip pans are provided where bearings drips oil, that all drip pans are kept emptied and cleaned out, that all paper, rags, waste, and all refuse be placed in an approved waste can, and that these cans be provided where needed. Straw or excelsior or any such material that may be used for packing purposes should be cleaned or swept up at the end of each working day and stored in an approved storage vault provided for that purpose. Oils, grease, paints or all inflammable liquids should be stored in approved vaults provided for same when not being used.

Firemen in their inspection work should check all gas fires to see that they are not connected to line with rubber hose, or that there is no leak in lines, they should also inspect salamanders to see that no wood is being used in them, this is especially important when salamanders are located near combustible stock or buildings, see that all coal or gas fires located in buildings with wood floors have the proper floor protection.

They should inspect spark screen in blacksmith forge stacks and locomotive stacks to see that they have no large holes burned in them. Fuse boxes should be inspected to see that lines are properly fused and that fuses are properly paired on each branch circuit, and that fuses and boxes are of an approved type. All temporary wiring should be inspected to see that there is no immediate danger of fire from it, and should be inspected frequently until the temporary work is changed to a permanent one.

All buildings such as carpenter shops, pattern shops on any industry that produces an inflamable dust, should have the accumulated dust blown off of the roof timbers or where ever it will accumulate. This should be done at regular intervals or whenever it is deemed necessary by the inspector.

Report all Hazards and Obstructed Equipment

All fire hazards or obstructed fire equipment should be reported to the head of the department where trouble is located; these reports to be in writing and a carbon copy of report is retained by the inspector to be checked at his next inspection.

The fire inspector can be of valuable assistance to the Safety Department as on his regular inspection trips he can educate himself to note the unsafe conditions, such as unguarded gears, scaffolds without toe or safety boards, boards laying around through the yard with nails in thm, high piles of lumber or bricks not being tied in, broken steps in stairways, wires too low that a man may receive an injury from them, slippery walkways where employees are compelled to walk, or any unsafe condition that he may observe on his inspection trip. He should report any unsafe condition to the foreman of the department or to the Safety Engineer.

Firemen should be familiar with first aid methods and what to do in case of an accident. They should be trained in the Schafer and Sylvester method of artificial respiration and in the use of the H and H Inhalator and the Pulmotor if either one are available. They should know how to stop bleeding by the use of the tourniquet or a compress bandage. They should know what to do in case a person is overcome by shock, carbon monoxide, drowning, suffocation, etc,

They should be famliar with the different kinds of bandages, and their proper use in dressing wounds on different parts of the body. They should be familiar with and know the difference between a simple and a compound fracture and the proper method of handling and dressing them. Firemen

should be familiar with the location of the stretchers throughout the plant and the proper method of placing an injured person on a stretcher and carrying him.

The Private Auxiliary Brigade

The auxiliary brigade should consist of companies or squads of men from each turn or shift of the different departments of the plant, that is if the plant is working on 8 hour shifts the brigade should consist of three companies.

The brigade should consist of a chief and assistant chief, and captains who would be in charge at all fires until the arrival of the chief or his assistant. The qualifications for these officers should conform with the qualifications of the officers of the paid department in so far as it is possible.

The men for an auxiliary brigade should be selected from the different departments of the plant, for if there are men in all the departments trained in the use of extinguishers and in the proper method of handling fires a large number of small fires will be extinguished more quickly. The men selected for this work should be men that take enough interest in this work to be willing to sacrifice some of their time to drill work and to answering alarms when off duty.

It has been found that mechanics or repairmen make good firemen and are more suitable for this work as these men are very likely to be in the plant when it is not operating, such as on Sunday or on holidays. The auxiliary fireman should, when posible, be a man who resides within hearing distance of the plant fire alarm system, and a man who is known to spend a reasonable part of his off time at or near his home, as the auxiliary fireman should respond to all alarms whether he is at work at the plant at time of fire or not.

Drills should be arranged weekly. The men should be drilled in the use of all first aid fire extinguishers, proper method of laying hose lines and using them, ventilation and rescue work; they should be familiar with and know the operation of the plant fire pumps, and should be drilled in all fire extinguishing methods, and above all should be taught rigid discipline.

Outside hose lines should be laid to the different buildings so that the men will be familiar with the different length hose lines and will have some knowledge as to the amount needed to reach each building. In fact the officers and men of the auxiliary brigade should be brought to the same standard as the paid department as far as it is possible or practical to do so.

Competitive drills should, if possible, be arranged between the different companies as this will help to keep the men interested in their work.

(From a paper read at the Pittsburgh Plate Glass Company's Annual Safety and Insurance Conference, at Barberton, Ohio, February 11-13, 1930.)

Colorado Firemen to Meet July 3-5

The annual convention and tournament of the Colorado State Firemen's Association will be held in Salida, July 3-5, in connection with a Flying Circus. The aerial meet will be part of the dedication exercises of an air field and dome by the American Legion.

A large crowd is expected, and the committee in charge urges that hotel reservations be made early.

One Dead in Fire That Destroyed Fashionable Home

A maid working for Hamilton Tyng, millionaire financier, in his summer home at Southampton, Long Island, lost her life in a fire that destroyed the $300,000 country home and almost claimed the lives of other members of the household. The photo shows the building after the fire was extinguished. Most of the summer homes on Long Island country estates are without adequate water protection.

Chiefs' Emergency Aid Plan Dinner

(*Continued from page* 494)

on the mortality of the county and urged that all fire departments equip themselves with resuscitating devices. He paid a flattering compliment to Dr. Harry M. Archer, Honorary Medical Officer of the New York Fire Department, for the work he has done along the lines of education in artificial respiration and its resultant conservation of human life.

Wm. Jerome Daly told the two hundred guests of how New York City sent a battalion of fire apparatus to the city of Baltimore in 1904 to aid that municipality to extinguish what remained of a $70,000,000 fire; that New York City has been meeting such emergencies occasionally and cited some of the instances in which help was sent out of the city to Camp Merritt, N. J., Jersey City and more frequently to the waterfront of the State of New Jersey where fireboats have saved the communities of Hoboken, Weehawken, Communipaw, Jersey City, Linden et al, millions of dollars and in doing so sometimes damaged the fire boats and injured some firemen.

The following newly elected officers for 1930-31 were installed: President—Chief H. E. McTavey of Mt. Kisco; 1st Vice-President—Chief A. W. Travis of Peekskill; 2nd Vice-President—Chief Eugene Conway of East Portchester; 3rd Vice-President—Chief Arthur Steuhl of Bronxville; Secretary-Treasurer—Eugene Riviere of Larchmont. The following were elected Directors for two years—Chief James Sullivan of Greenwich, Conn.; Chief Fred N. Lounsbury of Portchester; Chief John Gibson of Mt. Vernon; Charles W. Hagelston of Larchmont. The next meeting will be held in Mt. Vernon on the third Wednesday in June.

Others present were: Chief Walter Jones of New Rochelle, Chief J. J. Brennan of Pelham Manor; Chief Abbott Griffin of White Plains; Chief Gibson of Mt. Vernon; Chief Chet Dobbs of Scarsdale; Chief James Sullivan of Greenwich, Conn.; former Chief R. J. H. Lemmon of Larchmont; Chief A. W. Travis, Jr., of Peekskill; Fire Commissioner Fred Merkle of Portchester; Chief Charles Persche of Mamaroneck; Chief Edw. Garth of Elmsford; Chief Sam Dawson of Dobbs Ferry; Commissioner Thomas Elder of Dobbs Ferry; Chief Fred Langcloh of Rye; Chief John Brennan of Verplanck; Chief Eugene Conway of East Portchester, and scores of fire officers and firemen.

Exhibit Committee Urges Reservations

A number of applications have been received for exhibit space at the coming convention of the International Association of Fire Chiefs to be held in Winnipeg, Canada. To make sure that none of the manufacturers has been slighted, and that the invitation to exhibit fire apparatus and equipment has been extended to every one interested, Chief Albert Herring of Murphysboro, Ill., a member of the Exhibit Committee, has sent out the following letter:

Gentlemen:

As a member of the Exhibit Committee for the Convention of the International Association of Fire Chiefs, I urge you to write Chairman of Exhibit Committee, Chief Chas. Alt, St. Louis, Mo., and arrange to take Exhibit Space for this coming Convention.

Chief Alt has arranged for your benefit, special train service with no additional cost for the movement of Exhibits to Winnipeg, Manitoba, Canada. With this arrangement your Exhibits will be delivered without any delay whatever. At this early date we have the assurance that all Exhibit Space will be taken and it is very important that you make your selection now of space wanted and write Chief Alt at once.

I have inclosed a letter which Chief Alt, Chairman of Exhibit, is going to mail out to all Exhibitors, along with two contracts, so it is very important that you do give this your attention at once. Some have been taken out and it is the desire of the Exhibit Committee that no one will be missed and that all will take the advantage of the splendid chance to Exhibit at what will be the largest gathering of Fire Chiefs, City Officials and all those who are interested in Fire Prevention, Fire Control, and Fire Extinguishing, which has ever been held.

The Local Committee at Winnipeg is leaving nothing undone to make this the best convention yet. The Exhibitor will be given every attention possible to make his Exhibit and his stay in Winnipeg a most pleasant as well as profitable visit. In closing may I ask you to please give this your attention at once, as all awards for space chosen will be given as the Contracts reach Chairman Chief Alt's Office. Make reply to Chief Chas. Alt, Chairman Exhibit Committee, St. Louis, Missouri.

Springfield, Mass., to Erect Fire Station—Bids have been invited for the construction of a fire station in Springfield, Mass. Work is expected to be started early in June.

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A typical scene in an A. D. T. Central Station where coded fire alarm signals are received and transmitted immediately to the fire department.

Fire Fighting Efficiency

A. D. T. Systems of fire protection and watchman's supervision operate to decrease the fire hazard, and, by providing prompt notification of the exact location of fires, they help to increase the efficiency of your own fire fighting organization.

In 1928, A. D. T.-protected premises were 99.97% immune from fire—convincing evidence of the thoroughness of A. D. T. protection.

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Minimize Water Damage · Reduce Insurance Rates

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Salvage Covers

City of Charleston
WEST VIRGINIA

Nov. 16, 1929

Fulton Bag & Cotton Mills.
Atlanta, Ga.

Gentlemen:-

The "SHUREDRY" salvage covers I purchased from you some time ago are doing just what you recommended them to do. They have paid for themselves several times in reducing the water damage.

I believe they are one of the most important things in a department with the largest saving, and the smallest purchase cost.

Very truly yours,

Write for Samples and Prices

Fulton Bag & Cotton Mills

St. Louis Atlanta Dallas
Minneapolis Brooklyn New Orleans Kansas City, Kan.

FIRE RAGES

when time is lost—!

Precious seconds, yes minutes, are often wasted when fire breaks out.

Most of this delay is due to a weak fire alarm signal — either it is not heard or it is slow in rousing volunteers. Some cities have no fire alarm signal at all.

But the piercing roar of the Fedelcode Siren gets fire fighters out on first blast—gets men on the job early with no loss of time.

FEDERAL ELECTRIC CO.
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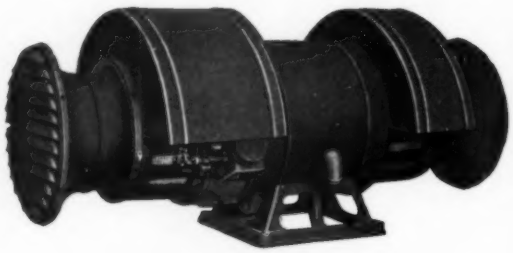
CHICAGO, ILLINOIS

Check Fire Losses with—

FEDELCODE *Sirens*



AT THE FIRE—NO TIME LOST

Where a volunteer fire department is used, members must not only know when there is a fire, but must know WHERE the fire is, in order that they may arrive with minimum delay.

The Sterling Code Siren is designed for this purpose. Weather-proof, can be located at any headquarters, operates manually, semi-automatically, or directly automatically. Controlled by electric mechanical brake.

Built by the world's oldest and largest exclusive siren manufacturer. Let our engineering department consult with you regarding your emergency signalling problems. No obligation, of course. Write:

STERLING SIREN FIRE ALARM Co., Inc.
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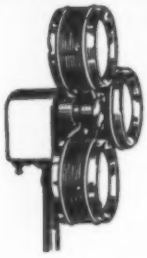
The most Effective Combination of Warning Signals



BUCKEYE "ROTO-RAYS"—A silent signal of unquestioned effectiveness to protect your apparatus and your firemen against accidents.

At night these three revolving red signal lights make identification of the apparatus instantly possible as far as light is visible.

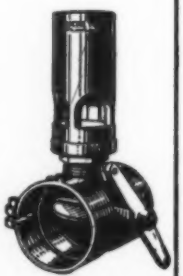
Insist upon having "Roto-Rays" on the next piece of apparatus you buy. It's just as essential as the whistle, the siren or the bell. Easily installed on apparatus now in service.

The Powerful BUCKEYE EXHAUST WHISTLE predominates in over 600 fire departments where serious traffic problems exist.

The shrill blast of a Buckeye Whistle effectively carries far ahead of the apparatus. Its sound is distinctive and extremely penetrating.

"Roto-Rays" and a Buckeye Whistle form the most effective combination of Warning Signals in existence.

Prices and full particulars upon request.



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N. Y. Tests Chrysler Standpipe System

(Continued from page 496)

In connection with the standpipe fire line there is a system of telephonic communication, with stations on every alternate floor, with the master station in the main corridor of the building, so that a fire department officer from that strategic point can communicate with the pump rooms or pump operators, or with the firemen at the outlets on each floor.

Nearly a score of attaches of the Bureau of Fire Prevention participated in the test. The test was held under the direction of Chief Peter C. Spence of the Bureau of Fire Prevention. Chief Inspector Michael J. Reidy was in personal charge of the operation. Peter J. Maher, Departmental Consultant for Plan and Field participated as did Max Cohen, Chief of the Plan Division, T. E. A. Smith, examiner-in-charge of the Plan Division, Thomas Murphy, Inspector-in-charge of the Mechanical Division of the Bureau, and the following Inspectors: Chris E. Maddox, George W. Walters, Leo McEvoy, Edward H. Bransfield, David O'Connor, Robert E. Alster, James Connolly, John Plunkett.

The Electrical Division was represented by W. J. Mulligan, Chief of that branch; Electrical Plan Examiner Wm. J. Mangan and Electrical Inspectors R. C. Lent, (in-charge), Francis H. Zeiser, P. J. Goodge, Nicholas Pellegrino and Raymond Thackaberry.

The Fire fighting bureau (uniformed force) of the department was represented by Lieut. William J. Fealy, Supervising Engineer of the Department.

Up to this writing, a fire engine pumping test has not been held. The 1st and 2nd due engine companies responding on the first alarm to the Chrysler Buliding are 1,000 gallon pumps—Engine Co. 65 (Ahrens Fox) and Engine Co. 21 (American-LaFrance). It is proposed to soon hold a fire engine test by utilizing these two pieces of apparatus. The standpipe system was installed in the building by Louis T. M. Ralston, represented by D. F. Horgan, Sanitary Engineer in charge.

Indiana Firemen Invite Exhibits

About 2,500 persons are expected to attend the thirteenth annual convention of the Indiana Firemen's Association to be held at Lafayette, July 29-31. In connection with the convention, there will be a display of various exhibits for which there will be no charge to manufacturers. The officials believe that this free exhibit space should attract a number of interesting displays. All those interested should write to Clem Smith, Secretary, Terre Haute, Ind.

Company Members Save Fireman's Life

Twenty-two blood transfusions from as many comrades in the New York Fire Department between February 28th to March 29th, are credited with helping to save the life of Fireman Robert Grant of Engine Co. No. 33, who left Bellevue Hospital last week.

Grant and Fireman Frank C. Murray of the same company, were the victims of a rear-end collision between the hose wagon and the pumping engine of that company on February 28th while re-locating to "cover-up" for another fire company. Murray's two legs were severed. He died two days later.

Grant's left leg was amputated. Dr. Harry M. Archer of the Fire Department summoned blood donors immediately from an established list of blood donors which the fire department maintains.

Dr. Archer said that the case was most remarkable; that there is no other like it on record, where twenty-two persons each contributed a pint of blood to one patient. It was disclosed that the red cells in Grant's blood were built up from 1,250,000 to 6,350,000; the white cells from 8,600 to 15,150, and the iron in his blood was improved from 45 per cent to 100 per cent as indicated last night.

Soon after Grant's leg was operated on, a general blood poisoning set in, which for a time had the doctors skeptical of the outcome, but blood transfusion soon improved his condition to the point that made it reasonably safe to tell him, two months later, that his comrade Murray had died. Fire Commissioner John J. Dorman took unusual interest in the case and made many visits to the hospital. The Firemen's Emergency Fund will provide Grant with an artificial leg just as soon as he is able to wear one.

WM. JEROME DALY

Logansport, Ind., to Erect Fire House—Contracts have been awarded for the construction of a fire station in the east end of Logansport, Ind.

Bethlehem Chiefs Meet at Bethlehem—A conference was held in Bethlehem, Pa., of the plant fire department heads of the Bethlehem Steel Corporation. The party witnessed a demonstration of foam extinguishers.

Plan to Build Firemen's Museum

To better house and display a large number of relics of volunteer fire department days, it is the hope of a committee of the Firemen's Association of Pennsylvania to erect a museum at Valley Forge on a plot set aside for that purpose. The building is to be of Colonial architecture with a center building designed along the lines of a Colonial fire house. There will be an arcade leading to a building on the east and one arcade leading to a building on the west so that the entire assembly will somewhat resemble Independence Hall.

An appeal is being made to the various fire companies of Pennsylvania for fifty-dollar donations. The Memorial Committee consists of Hiram Ganser, Chairman, Norristown; James E. Chalfant, York, Treasurer; Charles E. Clark, Wayne, Secretary. Chief Richard Lee Smith of Pittsburgh is president of the Firemen's Association and Charles E. Clark of Wayne is secretary.

Gamewell Promotes G. F. Penniman

G. F. Penniman has been made manager of the construction department of the Gamewell company to fill the vacancy caused by the transfer of the former manager, H. I. Turner, to the Eagle Signal Sales Corporation.

He received his electrical engineering degree from Worcester Tech several years ago and then joined the Western Electric Company at their Hawthorne plant. He was also with the wire and cable department of the United States Rubber Company. From this company he joined the Gamewell organization and worked with Mr. Turner in the construction department.

Mr. Penniman has had very extensive experience in the firm alarm signal field and has made installations in Boston, Mobile, Worcester, Dayton, Canton, and many other cities.

G. F. Penniman

Autos Burned in Post Fire

Fire that started in the Army post garage at Mitchel Field, L. I., destroyed twenty-five automobiles and for a while endangered a number of hangars. Only quick work on the part of 1,200 soldiers saved the buildings.

The blaze spread to the headquarters building and the post canteen, but by that time apparatus was responding from Mineola, Garden City, Hempstead and other towns.

New York Proposes Fireworks Rules

To prevent many serious accidents and fires, a set of rules governing the manufacture and display of fireworks has been formulated by the Department of Labor, New York state.

The manufacture of toy torpedoes containing more than five grains of an explosive mixture, paper caps containing more than .35 grains of an explosive mixture, firecrackers and salutes exceeding five inches length, any article cantaining a mixture of yellow or white phosphorus and fireworks that can be exploded en masse by a blasting cap are prohibited.

The rules state that the display of fireworks in windows shall not be permitted but dummy samples, so marked, may be put in windows.

Fireworks are not to be stored or put on sale where there are paints, oil or varnishes unless kept intact in the original unbroken containers. Where matches, turpentine or gasoline or other inflammable substances are kept, special rules hold.

At the present time the set of rules as proposed has not been officially adopted, but the Department is seeking the cooperation of the industry at the busy period just before July 4th, so that serious accidents and fires may be prevented.

Bremerton, Wash., to Buy Pumper—A 500-gallon pumper is to be purchased for the West End of Bremerton, Wash.

Chicago Heights, Ill., Wants Aerial—Chicago Heights, Ill., invited bids for an aerial ladder.

Dallas, Tex., Wants Drill Tower—Included in the fire department budget for Dallas, Tex., is $8,000 for a drill tower and the inauguration of a training school for firemen.

Portland, Ore., Firemen Must Live Within City—The municipal civil service board of Portland, Ore., ruled that all firemen living outside the city must change their residence within six months.

PROPOSED IMPROVEMENTS

Hempstead, N. Y.—Fire department ment to purchase an emergency relief truck, at cost of about $6,500.

Floral Park, N. Y.—Site is being sought for erection of fire station. Bonds to the amount of $45,000 already voted.

Richmond, Va. — Reports state 31 new fire alarm boxes are to be installed in city. Wm. H. Joynes, Chief of Fire Dept.

Oneonta, N. Y.—A resolution was introduced calling for the construction of a new fire headquarters building on Elm Street, according to reports.

Dexter, N. Y.—At election held May 26 city voted in favor of issuing bonds to the amount of $5,000 for purchase of 500 gal. pumper. Claude O. Phalon, Village Clerk.

Dauphin, Penn.—Reports state City Council called special election for July 1 to vote on $10,000 bond issue for construction of fire station.

Canton, Ohio.—Ordinances were passed by council to appropriate $32,000 in bonds for erection and equipment of fire-proof police and fire alarm telegraph system building at Dewalt Ave. and 10th St., and authorizing Safety Director Geo. F. Schoner to advertise for bids. Entire cost of building and equipping will be $58,000.

North Tazewell, Va.—At recent election city voted in favor of $5,000 bond issue for purchase of fire equipment.

York, Penn.—Bonds to the amount of $200,000 were sold recently. Part of these will be used for purchase of two pieces of apparatus for the city fire department. Henry Butler, City Clerk.

Conway, Mass.—A committee was appointed to purchase new fire apparatus, according to reports. Geo. Pease, Chief of Fire Dept.

York New Salem, Penn.—A committee was appointed to view sites for erection of new fire station for Community Fire Co., according to reports.

Tazewell, Va.—Reports state an election is to be held to vote on bond issue for purchase of additional fire apparatus.

CONVENTION DATES

June 11-13—MARYLAND STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Lord Baltimore Hotel, Baltimore, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 11-13—WISCONSIN STATE FIREMEN'S ASSOCIATION (Volunteer). 43rd Annual Convention, Plymouth, Wis. Secretary, E. Philip Mueller, Jefferson, Wis.

June 11-14—EASTERN WISCONSIN FIREMEN'S ASSOCIATION. Convention and Tournament, Plymouth, Wis.

June 13-14—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 24th Annual Convention and Parade, Linwood, Pa. Financial Secretary, William E. Wunderlich, Lansdowne, Pa.

June 13-14—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 12th Annual Convention, Steelton, Pa.

June 16-20—SIX COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Danville, Pa.

June 17-20—SHORT COURSE ON FIRE PREVENTION, CONTROL AND EXTINGUISHMENT. 6th Short Course, University of Illinois, Champaign-Urbana, Ill. Address, Prof. C. C. Palmer, Director of Course, Architectural Bldg., at the University.

June 17-19—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 41st Annual Convention, Rensselaer, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie, N. Y.

June 20-21—FOUR-COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Easton, Pa.

June 24-27—WISCONSIN SHORT COURSE IN FIREMANSHIP. 2nd Short Course at the State University, Madison. Address, Prof. H. E. Pulver, at the University.

June 24-25—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 3rd Annual Convention, Charlotte, N. C. President, Sherwood Brockwell, Insurance Department, Raleigh, N. C.

June 24-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Hotel Berwick, Rutland, Vt. Meetings, Odd Fellows' Hall; Exhibits, Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief Daniel B. Tierney, Arlington, Mass.; Traffic Manager, George F. Cobb, Boston.

July 3-5—COLORADO STATE FIREMEN ASSOCIATION. 14th Annual Convention and Tournament, Salida, Col. Secretary, Clinton Turnbull, 303 Jacobson Bldg., Denver, Col.

July 7-10—MICHIGAN STATE FIREMEN'S ASSOCIATION. 56th Annual Convention and Fire College, South Haven, Mich. Secretary-Treasurer, H. L. Williams, Ludington, Mich.

July 9-10—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION 10th Annual Convention, Georgetown, Sussex County, Del. Secretary, Sam H. Carson, Dover, Del.

July 14-15—MONTANA STATE FIREMEN'S ASSOCIATION. 39th Annual Convention, Missoula, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 16—NASSAU COUNTY FIREMEN'S ASSOCIATION. 25th Annual Parade and Tournament, Inwood, L. I., N. Y. Parade, 9:30 A. M.; Tournament, 1:30 p.m. Secretary, J. W. Sane, Glen Cove, L. I.; Chairman Tournament, Henry W. Buck, Westbury, L. I.

July 22-23—WESTERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 30th Annual Convention, Rochester, N. Y. Secretary, Henry A. Clark, Batavia, N. Y.

July 29-31—INDIANA FIREMEN'S ASSOCIATION. 13th Annual Convention, Lafayette, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

July 30-31—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. 37th Annual Convention, Skaneateles, N. Y. President, C. W. McCray, Waverly, N. Y.; Secretary, T. J. Murray, Cortland, N. Y.

July 31-Aug. 1-2—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, San Francisco, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Street, San Diego, Cal.

August—MAINE STATE FIREMEN'S ASSOCIATION. 3rd Annual Convention, Bangor, Me. (Date to be set later.) Secretary, Earl E. Pratt, Auburn, Me.

August—UTAH STATE FIREMEN'S ASSOCIATION. 23rd Annual Convention, Provo City, Utah. (Exact date to be decided later.) Secretary, Charles A. Canning, Midvale, Utah.

Aug. 6-7—CUMBERLAND VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 30th Annual Convention, Shippensburg, Pa. Secretary, C. L. Jacobs, Waynesboro, Pa.

Aug. 6-8—WASHINGTON STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Kelso, Wash. Secretary, H. S. Jenkins, Bellingham, Wash.

Aug. 12-14—WISCONSIN PAID FIREMEN'S ASSOCIATION. 23rd Annual Convention, Two Rivers, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis.

Aug. 12-15—WYOMING STATE FIREMEN'S ASSOCIATION. 4th Annual Convention and Tournament, Caspar, Wyo. Secretary, Chief Justin H. Patrick, Laramie, Wyo.

Aug. 15-16—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 47th Annual Convention, Pyramid Lodge, 1035 State St., Bridgeport, Conn. Secretary, D. W. Harford, 10 Chestnut St., South Norwalk, Conn.

Aug. 19-22—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 58th Annual Convention, Nyack, N. C. Secretary, Fred A. Davis, Drawer X, Fort Edward, N. Y.

Aug. 27-29—VIRGINIA STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Phoebus, Va. Secretary, E. K. Landis, Pulaski, Va.

Sept. 1-4—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 37th Annual Convention, Oakland, Cal. Secretary, Jay W. Stevens, 1014 Merchants' Exchange Building, San Francisco, Cal.

Sept. 2-4—KENTUCKY FIREMEN'S ASSOCIATION. 11th Annual Convention, Paducah, Ky. Secretary, Capt. S. G. Render, 940 Starks Bldg., Louisville, Ky.

Sept. 2-5—DOMINION ASSOCIATION OF FIRE CHIEFS. 22nd Annual Convention, Port Arthur, Ont. Secretary, Chief James Armstrong, Kingston, Ontario, Can. Exhibit Space, Chief A. S. Kapelle, Stratford, Ont.

Sept. 9-11—ILLINOIS FIREMEN'S ASSOCIATION. 43rd Annual Convention, Peoria, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill. Exhibits, Chief Albert Herring, Fire Department, Murphysboro, Ill.

Sept. 9-12—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 58th Annual Convention, Hotel Royal Alexandra, Winnipeg, Man., Canada. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles Alt, Fire Headquarters, St. Louis, Mo. Hotel Reservations, Chief D. A. Boulden, Winnipeg, Man.

Sept. 16-17—IOWA FIREMEN'S ASSOCIATION. 53rd Annual Convention, Boone, Ia. Secretary, Paul Soener, Independence, Ia.

Sept. 16-18—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 51st Annual Convention, Pittsfield, Mass. Secretary, Daniel J. Looney, Room 1043, Old South Bldg., Boston, Mass.

Sept. 24-25—MISSOURI STATE FIREMEN'S ASSOCIATION. Annual Convention, Trenton, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis.

Oct. 7-9—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 51st Annual Convention, Hotel Americus, Allentown, Pa. Secretary, Charles E. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 8-9—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, Sheboygan, Wis. Secretary, Chief Arthur J. Rahn, Fire Department, Two Rivers, Mich.

Oct. 21-23—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 49th Annual Convention (2d in year), Scottsbluff, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

November—SONOMA COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Petaluma, Cal.

Officers of Massachusetts Chiefs' Club

At a meeting of the Fire Chiefs' Club of Massachusetts held at the Parker House, Boston, May 21, the following were elected officers of the organization:

President, Chief Selden R. Allen, Brookline; First Vice-President, Chief Alfred L. Mead, Quincy; Second Vice-President, Chief Frank Tracy, Woburn; Secretary-Treasurer, Ex-Chief F. Burt Jacquith, Randolph; Directors, Ex-Chief Daniel F. Sennott, Boston, Ex-Chief H. Howard Upham, Needham, Ex-Chief John E. Sullivan, Plymouth, Chief Thomas H. Mahoney, Westfield, and Chief Charles L. McCarthy, Worcester; Auditors, Chief Thomas Qualey, Medford, Chief David De Coursey, Winchester, and Chief Daniel B. Tierney, Arlington; Sergeant-at-Arms, Chief David De Coursey, Winchester, and George F. Cobb, Boston, Traffic Manager.

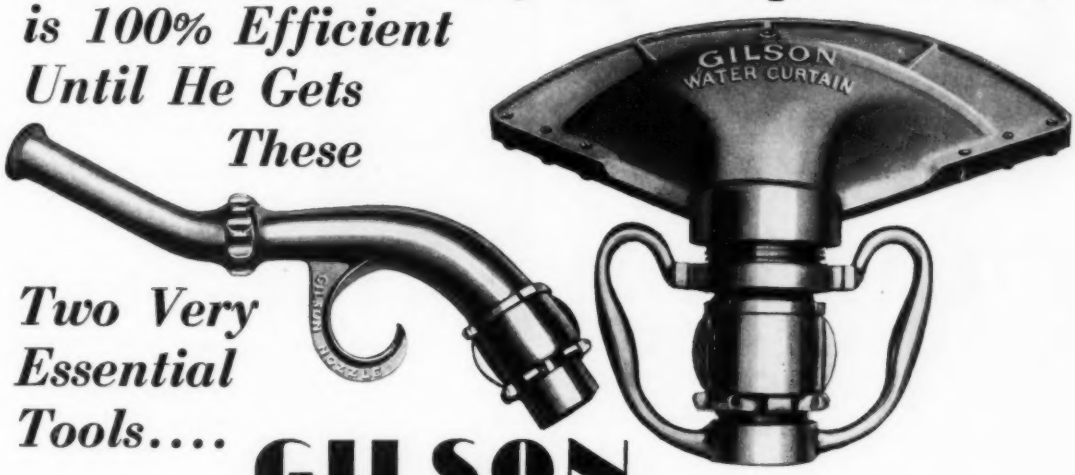
Pumper Delivered to Lebanon, Pa.—A Mack pumper has been delivered to Lebanon, Pa.

Hampton Bays, N. Y., May Have Department—The American Legion is attempting to establish a volunteer fire department in Hampton Bays, N. Y.

Pottesville, Pa., Firemen Injured in Crash—Two fire companies of Pottsville, Pa., crashed while responding to a fire from different directions. Apparatus valued at $25,000 was badly damaged.

Richmond, Va., to Add 31 Boxes—Thirty-one fire alarm boxes will be added to the fire alarm system of Richmond, Va. This installation will raise the total of boxes in service to 447.

No Chief Can Say His Department is 100% Efficient Until He Gets These



Two Very Essential Tools.... GILSON

BENT NOZZLE

It fights Fire in Attics, Cellars and Ship Holds, directed from a safe position. Works as a straight nozzle, and will round a corner so that the Fireman may protect himself.

WATER CURTAIN

Throws a 75-ft. Sheet of Water
For cooling Gasoline and Oil Tanks.
For the Fireman to advance behind.
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Manufactured by **LOVELL-DRESSEL CO., Inc.** *Arlington, N. J.*

The MATHEWS Modernized Hydrant Fulfills All Your Demands

It Solves the Broken Hydrant Problem

NEW and unique features make the Mathews Modernized Hydrant more desirable than ever: simplified in design; greater protection throughout against rust; greater shock resisting strength of the Sand-Spun barrel and protection case; the new swivel flange that permits taking off the nozzle section before lifting out the barrel, thus making this operation easier. With *all* these improvements, *the Mathews Modernized Hydrant is interchangeable with old installations.*

A broken Mathews cannot leak, and it can be replaced easily in a few minutes without digging or breaking the pavement.

The Greatest Improvement in Hydrant Design in Sixty four Years

Write for complete description of the new

MATHEWS MODERNIZED HYDRANT

R. D. WOOD & CO.
ESTABLISHED 1803
400 Chestnut St., Philadelphia
CAST IRON PIPE AND FITTINGS—GATE VALVES
SAND SPUN (centrifugally cast) and PIT CAST
Reg. U. S. Pat. Off.

"REDHEAD"

This NEW Signal sends a WARNING BEAM far in advance of apparatus!

Chief Charlesworth of Providence, R. I., has 37 "REDHEADS" in his department. He considers them one of his best investments in safety.

NOT ONE CHIEF HAS EVER RETURNED AN APPROVAL

"PROJECTING—FLASHING—REDHEAD"

Write for information.

THE PORTALITE CO.
cor. Bow and Arrow Sts., Cambridge, Mass.

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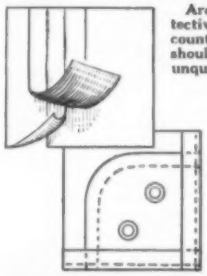
to stand
ABUSE

CLIFTON SALVAGE COVERS



Are standard equipment with leading Protective and Fire Departments throughout the country. Every well equipped Fire Company should carry Clifton Covers because they are unquestionably the most serviceable.

The National Board of Fire Underwriters has approved Rubber Covers in preference to all others, because—

They are thoroughly waterproof, durable, and so constructed as to withstand the hardest usage. Do not grow "tacky" in hot weather or stiff in cold weather.

We suggest that you check your equipment and see that your department has the best covers available. Send for descriptive circular.

CLIFTON MFG. COMPANY
Jamaica Plain, BOSTON, MASS.

This FLASHING RED LIGHT Clears the Streets Quickly

It's a

KING-LITE

COSTS LESS—MOST EFFECTIVE

HERE'S a powerful flasher that will clear traffic quickly—visible nearly a mile—automatic in action—no moving parts—economical to buy and maintain.

Designed for emergency vehicles — Fire Apparatus — Police Cars, etc.

MADE IN TWO SIZES

Round Model 6" in Diameter, $17.50
Oval Model 9" x 6½" Diameter.
Price $22.00

Let us send you one.

CANTON BATTERY & IGNITION CO.
489 Washington Street CANTON, MASS.

The INVINCIBLE PORTABLE NOZZLE

Combines the Advantages of a Wagon Gun and a Deluge Set

This latest, most highly improved Invincible Nozzle is highly recommended for the smaller fire department. Its two-fold use makes it very desirable. The nozzle is designed to be carried and mounted on the wagon in a suitable socket from which it can be removed by drawing out the holding pin, lifting the nozzle and setting it in the socket of a platform. The platform is made of three parts hinged together, folds up compactly and packs away in the wagon when not in use.

Where weight is an objection we make the metal parts of this nozzle in a strong aluminum alloy, which is about one-third as heavy as regular material.

ANDREW J. MORSE & SON, Inc.
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FIRE FIGHTERS CLOTHING

GIVES real protection and comfort in any weather and at any kind of fire. Designed to permit freedom of action, eliminating cumbersome excess weight. Made of materials that withstand the hardest kind of usage. Bodyguard apparel is used by Firemen everywhere.

BODY-GUARD BRAND

THE BODY GUARD MANUFACTURING CO.
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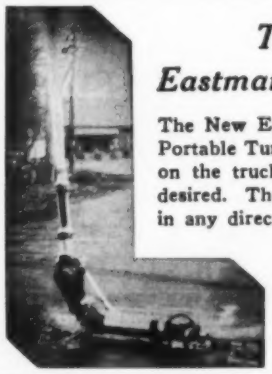


The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
Concord, N. H.

Rutland—Its Fire Department

(*Continued from page* 486)

First Motor Apparatus Purchased

In 1915 the city purchased its first piece of motor apparatus, a type 12 American-LaFrance combination. In 1919 the city acquired an American-LaFrance type 75 triple combination and in 1924 another type 75 triple combination was purchased. In 1927 a 75 ft. aerial American-LaFrance hook and ladder truck was added.

John P. Reedy became Chief when Dunn was elected Mayor and served as head of the Fire Department until his death on September 13, 1924.

A. H. Koltonski Becomes Chief

Mayor Dunn then appointed Alfred H. Koltonski Chief of the Fire Department. The latter entered the Fire Department on April 16, 1912, as a hoseman; was appointed driver of Hose Company No. 2 in February, 1916; enlisted in the navy on April 9, 1917, and served until December, 1918. He then returned to the fire service and on May 13, 1920, was made assistant chief. He became chief on October 6, 1924.

The most serious fire that Chief Koltonski has had to contend with occurred in November of 1924 at the Lincoln Iron Works where a saw mill and storehouse were destroyed with a loss of $97,000.

For the past five years the per capita fire loss in Rutland has averaged $1.80.

The Present Equipment

The present equipment of the Rutland Fire Department consists of one American-LaFrance type 12 combination, two American-LaFrance type 75 triple combination pumpers, one American-LaFrance 5 ft. aerial ladder truck, and one Buick service car. The force comprises a Chief, Deputy Chief, two captains, 13 permanent firemen, and 12 call firemen. The men have every fourth day off and receive the highest pay of any fire department in Vermont.

The Rutland reservoir, fed by pure spring water, has a capacity of 5,000,000 gallons. There is a gravity supply system which provides a pressure of 95 to 110 pounds in the business district and from 45 to 60 pounds pressure in the higher residential districts of the city. There are 246 hydrants.

Some Interesting Historical Data

An old record book of the Killington Steam Fire Engine Company No. 3 of Rutland contains some interesting notes on fire fighting in the early days of the municipality.

This company was organized on October 31, 1868, with N. L. Davis as Captain; Chester Kingsley, Assistant Captain; H. M. Bates, clerk; and L. G. Kingsley, Treasurer.

A yearly event that was looked forward to with keen anticipation was the clam chowder and dance held jointly by the Killington and Washington Engine Companies.

Newspaper clippings tell of the ceremonies connected with the presentation of a handsome silver trumpet to Major Levi G. Kingsley as a token of esteem when he was captain of the Killington Company.

On February 17, 1874, there was a fire which destroyed the south wing of the plant of the Rutland Manufacturing Works commonly known as the chair factory. On June 19 of the same year there was a serious fire in the mill owned by Bliss and Cross. The following description of the latter fire is taken from the records of the Killington Company:

"An alarm of fire was sounded at about half past twelve P. M. on Friday, June 19, 1874. The mill owned and occupied by Bliss and Cross on Furnace Street was found to be on fire. The several engines got in their different positions with commendable promptness. By the time the streams were all on the fire had secured a good headway in the upper portion of the building and just as it was being gotten under it was found that the reservoir on Howe and Union Streets which the steamer was playing from was getting low. For this reason the steamer was ordered to the chair factory reservoir from which she played through 1,100 feet of hose, but worked beautifully. After having worked about two and a half hours the steamer was ordered home, the fire being out. The loss on building and machinery was $6,000."

In the fall of the same year there was a threatening fire regarding which the record book states:

"About seven o'clock on the night of Tuesday, October 13, 1874, the dreaded cry of fire was heard through the streets. The fire proved to be in the livery stable kept by George Richardson at the corner of Wales and Willow Streets. The steamer took her position at the hydrant at the foot of Grove Street with hose stretched up West Street and thence through Willow Street, making in all about 1,300 feet to play through. The firemen worked with a will, but their efforts were unavailing in saving the building, it being burned to the ground. A number of buildings on the opposite side of Wales Street took fire from the intense heat, but were saved in a damaged condition. There were no less than six or seven different buildings on fire at once. The loss was estimated at $10,000."

There are detailed accounts of the annual parades of the Rutland Fire Department and of the play-off tests of the engines.

On May 15, 1875, there was a large fire which caused damage of $100,000.

"The fire was first discovered in the north store in the Opera House Block occupied by M. C. Hayes as a harness store. The flames soon spread to different parts of the building and it became evident that one of our best buildings was doomed for destruction. The steamer took her position at the corner of Grove and West Streets playing streams both on the front and rear of the building, and the flames were mostly confined to the inside. After burning for some time the walls fell in, the front wall falling out. For some time afterwards the firemen were obliged to devote themselves to saving the adjoining buildings. The upper part of the north wall in falling fell upon the roof of the building owned and occupied by Dunn & Cranston crushing the same and going down through three stores into the basement."

On the night of February 16, 1876, there was an incendiary fire which destroyed the Bates House. This place had been closed because of bankruptcy proceedings and the blaze was discovered in three different parts of the building. The flames spread to adjoining property and aid was called from Whitehall, several companies coming by train. The damage amounted to $200,000.

On September 23, 1879, the Killington Steam Fire Engine Company went on an excursion trip to Montreal and was accompanied by the Rutland Cornet Band.

In 1882 the same organizations enjoyed an excursion trip to Quebec where they paraded and were entertained by the Quebec firemen. A stop was made overnight in Montreal on the way to Quebec.

Bettendorf, Ia., Department Honored—The fire department of Bettendorf, Ia., was chosen as the best volunteer department in Iowa at the Iowa State College fire school at Ames. The Des Moines department was picked as the best paid organization.

FALSE ALARMS

AFTER THE BALL

Fire had developed in a home that was closed for the winter season, but it was extinguished before much damage was done. As a check-up on the property for the owner, who was friendly with the Chief, a fireman was delegated to take inventory. When he did not return within a reasonable time, another was sent to investigate. The first fireman was found fast asleep in the living room. Beside him was a paper on which he had written:

"One table, 1 sideboard, 1 full bottle whiskey." Then the word full had been crossed out and "half full" substituted. This too was ruled out and below it was marked "empty."

At the bottom of the page in wobbly writing was written, "One revolving carpet."

A fire hydrant is an iron object between two parked cars.

IT MARKS THE SPOT

Jack was brave and brawny, but very slow when it came to thinking. He had received a letter from a girl with whom he was very friendly, but there was one thing about it that puzzled him. He approached some one who was reading:

"Say what do these X's mean on the bottom of this letter?"

"Well Jack, I'm sorry to tell you. It means that she's double crossing you."

The situation in India shows that no matter how hard a fellow works, he can't make his own salt.

WASTED AWAY

A party from an up-state convention planned a little trip of their own to New York City to see the sights. The ride on the train had its ill effects for the men were far from sober when they arrived in Pennsylvania station.

As they left the station, one spied a fire alarm box. He stepped up to it boldly, managed to insert a penny and then looking up at the large clock over the station, remarked:

"My Lord, I've lost fourteen pounds since I got on the train."

Now they are considering a 105-story building in New York City. The old practice of building castles in the air is being brought down to a practical basis.

OBJECTIVE COUNTS

Up north, with the advent of winter, fire equipment is placed in sleds drawn by horses. The community in question had a volunteer department to which both the upper and lower classes belonged. At this fire call, the sled was soon filled. The minister found himself on the seat next to the driver.

The reverend could stand it no longer.

"With all this cursing and beating of your horses, you'll never get to heaven."

And the driver replied, "That may be parson, but we'll get to the fire in time."

It's all right for a woman to want to hold on to her youth, but not while he's driving.

KNOWS ALL—SEES ALL

The boys were seated in front of the station with nothing to do. In a building opposite was a girl whose employer had evidently left to play golf, for she, too, had nothing to do.

A fire-buff, who was passing the time with the boys, saw her, and remarked to the one nearest, "Betcha I take her out tonight."

"It's a bet."

Without further ceremony, the buff crossed the street and was next seen in the office in question. At first he was seen talking to her, and then, to the surprise of the boys below, he held her hand.

The other party to the bet could stand it no longer. He found the office phone number and called.

"Hello, who is this?" asked the girl.

Back the reply, "This is God—ain't you ashamed?"

Even a tombstone will say good things about a fellow when he's down.

SHRINKS TO ORDER

Oscar could not maintain his diet after he had once been admitted to the department. He developed an abnormal girth and was teased about it.

"Oh, yes," said Oscar, "I know all about it, but my size doesn't worry me. Everywhere I walk, people laugh at me, and that makes me feel small."

FAR FROM RIGHT

All the candidates for entrance to the department were busy writing during the official examination. During a moment when no one was looking, a contestant whispered to his neighbor:

"Say, help me with the fourth question."

The other had a sense of honor.

"I can't, it wouldn't be right."

"I don't suppose it would," was the sharp reply, "but you might have tried."

Influence is something you think you have until you try to use it.

BREVITY

A county volunteer firemen's association had invited the chief of a large department to speak. Impressed somewhat by the honor of introducing so distinguished a man, the chairman spoke for over an hour on the honor that the chief had conferred upon the county in being there that evening. And after much more to the same effect he ended by saying: "And now the guest of honor will give his address."

The chief arose and said:

"My address is the fire department headquarters."

Then he sat down.

COOLING

The boys were seated outside, legs crossed, enjoying the cool spring air.

"Hey Tom, do you know you're wearing your socks wrong side out."

"Yes, my feet got warm, and I turned the hose on them."

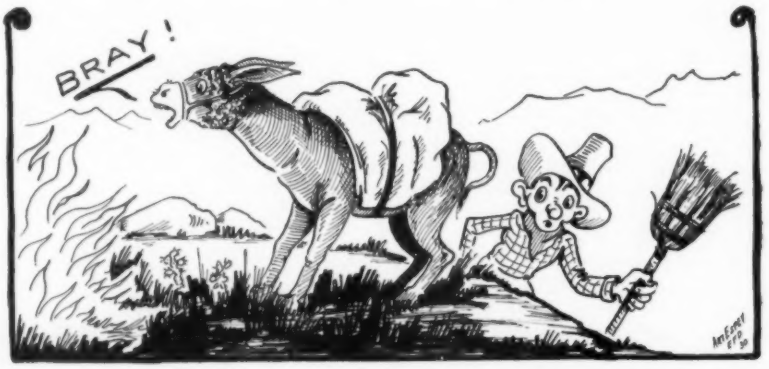
THE SUNNY VIEW

The boys moved into the new station before the finishing touches were completed. The grounds had not been seeded nor had the shrubs been set out. One man was sent to a hardware store to buy some of the necessary items.

After the clerk took down the items to be sent, he went over to the cashier and remarked, "That fellow is an optimist if ever there was one."

"Why, what do you mean?"

"He ordered grass seed and a lawn mower at the same time."



Drawing by "Art" Espey

Fire Department Term Illustrated: A Burro Call

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A Powerful Portable Electric Searchlight

The EXCELLIGHT is always ready, safe, powerful, economical and simple. It is moisture and waterproof, which eliminates short circuits and greatly increases the life of the batteries.

The EXCELLIGHT is indispensable, especially around places where inflammable materials are stored or manufactured.

With ordinary use the batteries will last for many months and can be replaced at small cost. Batteries are standard.

DURABLE
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WATERPROOF
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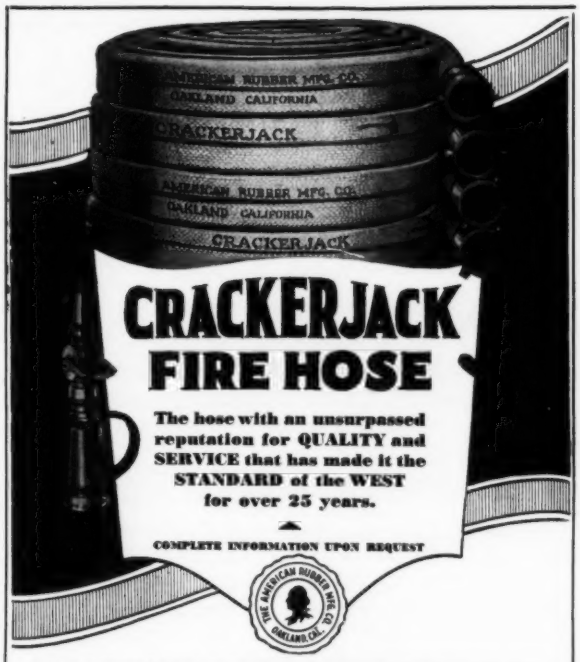
INDISPENSABLE

Used and endorsed by Fire Departments, Railroads and Police Departments. Always dependable.

Write for sample, full information and special net prices to fire departments.

THE NATIONAL MARINE LAMP CO.
Dept. F. Forestville, Conn.



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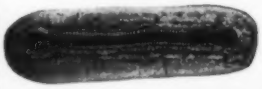

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The Bi-Lateral hose is made to flatten. This is why Bi-Lateral fire hose is guaranteed for six years instead of three.

When coupled with rocker lug couplings it makes a superior fire fighting line.

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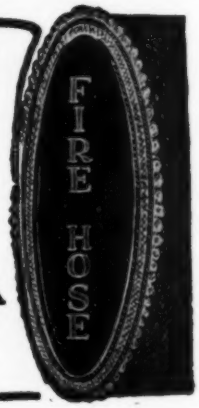

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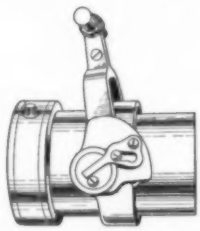

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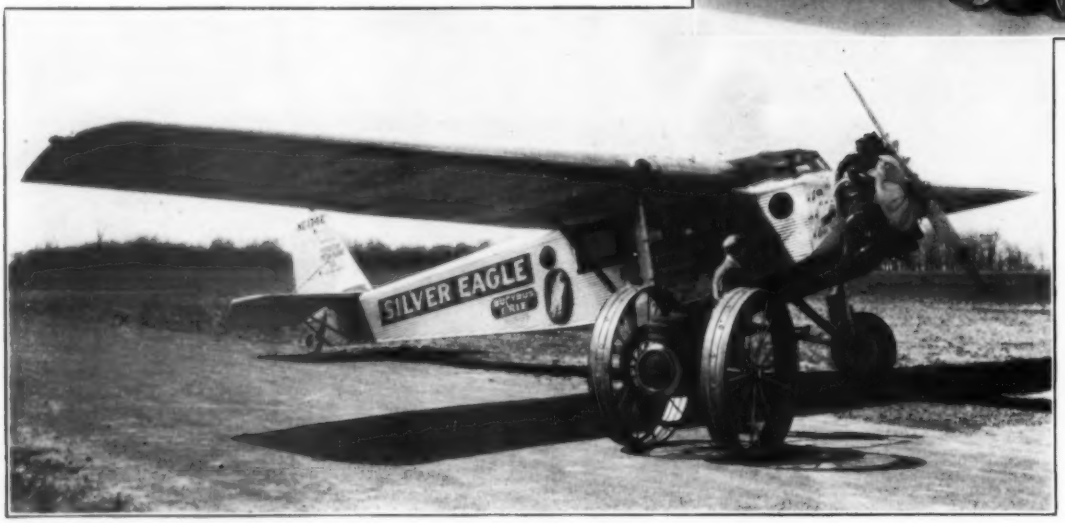

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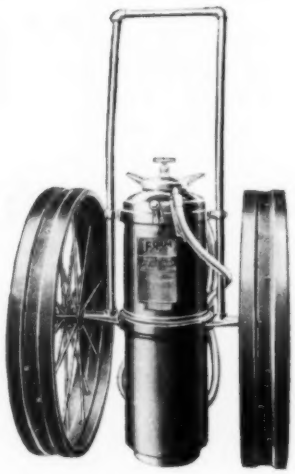

The Air Port Extinguisher manufactured by the Fyr Fyter Company is equipped with French & Hecht Wheels with roller bearings, Top Band and Spindle Band, especially designed for flying field service.

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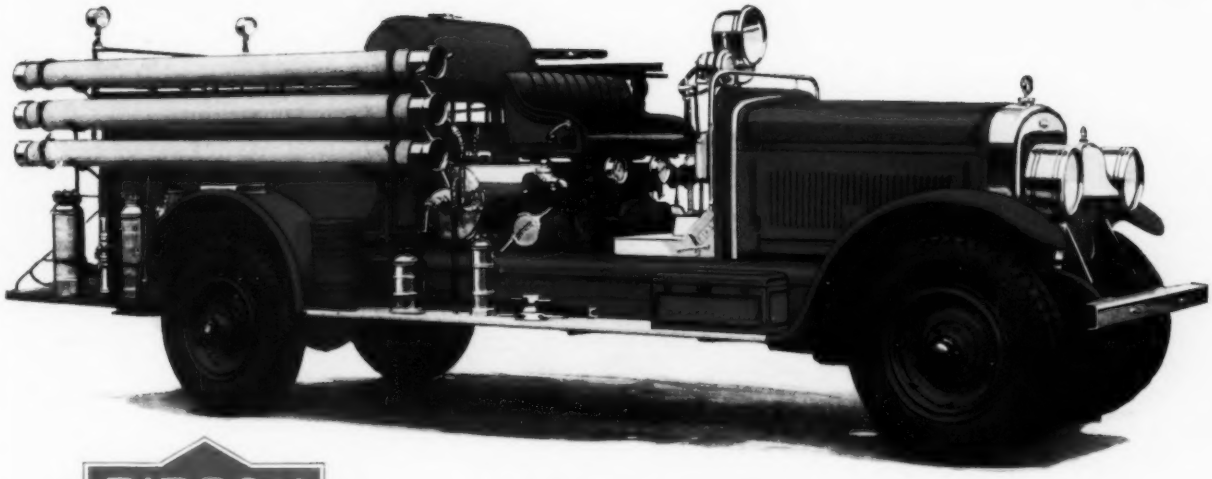

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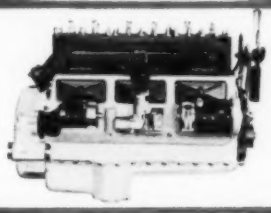
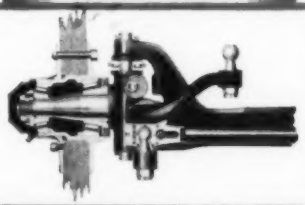


The Standard Pumper is equipped with this sturdy 105 H. P. 6 cylinder motor.



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